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# The Research Quarterly

of the American Physical Education Association

MAY, 1936

No. 2

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# Philostratos: Concerning Gymnastics

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## I. PHILOSTRATOS AND HIS TIMES<sup>1</sup>

FLAVIOS PHILOSTRATOS, "the Athenian," native of the isle of Lemnos, is said to have lived from about A.D. 170 till the time of Philip the Arab (244-249). The early part of his education was probably gained in his native isle, or at Athens, at the hands of *grammatist* and *grammaticus*, whose training was the usual preliminary for those who would enter upon rhetorical studies at the university. That he continued his training at Athens, whither those of literary bent in those days were wont to turn, is all the more natural since Lemnos, with Imbros and Skyros, constituted at the time the chief foreign possessions of Athens. There, about 190, he studied under such sophists as Proklos, Hippodromos, Antipatros, and at Ephesos under Damianos. His going to Rome is not definitely dated. After 202, however, probably through the influence of Antipatros, his teacher and one of the most intimate friends of the imperial family, Philostratos became one of the brilliant, learned circle which Julia Domna, the talented, beautiful wife of Septimius Severus, gathered around her. Of his movements but little is known definitely, but Muenscher infers that he may have been with Severus on his last campaign against Britain in 208, and with Caracalla on the campaign in Gaul in 212, inasmuch as the Empress and her literary circle accompanied the Emperor on his journeys and campaigns. In like manner, it is probable also that he was in Pergamon and Nikomedeia in Asia Minor, in 214-215, and in Antiocheia in Syria, 216-217, in company with Julia Domna and the literary followers of the royal court. At the death of Julia, which followed upon the murder of Caracalla, Philostratos took up residence at Tyros. There, about 217, he published the *Life of Apollonius Tyana*, which he had undertaken to compose at Julia's behest. From Tyros he returned to Athens where he enjoyed honor and fame befitting a sophist and one who had been an intimate of the imperial family. In the literary capital of the world, where professional athletics flourished no less than professional letters, Philostratos wrote his work

<sup>1</sup> For the fragmentary information and inferences concerning the life of Philostratos, the author is indebted to the accounts in Pauly's *Real-Encyclopädie der classischen Alterthumswissenschaft*, V. 1530 ff. and in Karl Muenscher's "Die Philostrate," *Philologus Zeitschrift für das classische Alterthum*, Supp., Vol. X, 467-558.

*Concerning Gymnastics*, probably sometime between 219 and 230 (as Muenschel believes), the period when Helix was enjoying world-wide fame as an athlete; or, perhaps, as Jüthner holds, some time after the period in which Helix reached the height of his fame, though it may have been produced after the *Lives of the Sophists* appeared, i.e., after 238. His *Lives of the Sophists*, a brilliant, readable account of those whom he considered the exemplars of the highest culture of that day, written primarily for entertainment rather than instruction, was composed apparently between 230 and 238.

The essay *Concerning Gymnastics* begins with an effort to clarify the relation between gymnastics and other human activities. The author insists that it belongs to the liberal arts and sciences, but shows that, in his day, it was fallen to a low estate. His purpose is to explain the reason for this decline and to set forth fundamental principles for improvement, for he believes that the decline in physical excellence and achievement cannot properly be ascribed to nature's being less generous than formerly, but to the excesses and irregularities in the life of the day, and failure on the part of trainers to take a broad and profound view of their professional work.

Physical contests are divided into heavy, light, and mixed: to the heavy belong the pancration, wrestling, and boxing; to the light, the four kinds of running; to the mixed, the pentathlon, in which wrestling and boxing are heavy, while throwing the javelin, jumping, and running are light. A brief historical reference is made to the origin of the various types of athletic contests, as well as to their introduction at Olympia. Gymnastics, properly considered, is defined, its relation to the art of healing and to that of the paidotribe explained, and its origin in human society, as well as its portrayal in mythical story, sympathetically related. The gymnasts' appearance in public, the social significance attached to their office in Lacedaemon, and the way in which upon occasion they have encouraged their charges, urging them on to victory, make it obvious that theirs is an important position, and hence should be entered upon only after proper professional preparation. Rhetorical training, knowledge of physiognomy, familiarity with the proper physical proportions of the athlete, and an understanding of humors ought, with many other things, to form part of the gymnast's equipment. Moreover, Philostratos discusses athletic capacities in general and the various ways, external and internal, by which capacities can be judged, as well as the special fitness of certain types for the pentathlon, distance, and other races, boxing, wrestling, and the pancration. Finally, Philostratos deals with the method of athletic development in ancient times by natural exercise of physical powers, simple food, and its excellent results; the improper training of his own day, which relies on too luxurious food, strictly regulated diet, and a pedantic pursuit of a certain cycle in training, without regard to the indi-

vidual needs of the athlete, which results in incapacity for war, increasing degeneracy, and weakness; and also the proper training, consisting of (1) finding out everything possible about the present condition of the athlete, (2) adapting exercises, food, and rest to these states of the individual, and (3) properly using sunbaths, the various kinds of dust, the jumping weights, and other facilities of the gymnasium. Only on the basis of a true knowledge of individual capacities, the right use of exercises adapted thereto, and the various auxiliary materials of the gymnasium, does Philostratos believe that gymnastics can merit a claim to being a true science.

This work *Concerning Gymnastics* is to be regarded as a literary essay by an able sophist who has attempted to write a defense of true gymnastics, by which he proposes to show how the evils of the present unenlightened, unscientific practice can be corrected. Written well after middle life, or perhaps only shortly before the author's death, it probably reflects to some extent the critical attitude of one who sees the new generation around him through somewhat jaundiced eyes. How much of the criticism is his own, and how much belongs to contemporaries whom he imitated is hard to judge. But Jüthner concludes, after a survey of the problem of sources, that Philostratos is indebted to a certain introductory treatise or treatises from which he drew most of the details, and whose general pattern is reflected in his work.

## II. CONCERNING GYMNASTICS<sup>2</sup>

1. As arts and sciences we shall consider on the one hand, for example, the following: philosophy, artistic speech, occupation with poetry, music, geometry, and, by Zeus, astronomy too, if it be not carried to extremes. On the other hand, however, generalship of an army is also a science, and the following besides: the entire art of healing, painting, modeling, the types of sculpture, and engraving on stone or steel. To that which, on the contrary, is called handwork, art may properly belong, of course, in so far as with it a tool or implement is

<sup>2</sup> Based on the excellent, critical texts of Julius Jüthner's *Philostratos über Gymnastik*, (Leipzig: Teubner, 1909), and compared with those of C. H. Volckmar's *Flavii Philostrati de Arte Gymnastica Libellus*, (Auricae: Spielmeier, 1862), Minoïde Mynas' *Philostrate. Sur la Gymnastique*, (Paris: Hector Bossange et Fils, 1858), Ch. Daremberg's *Philostrate Traité sur la Gymnastique*, (Paris: Didot, 1858), and C. L. Kayser's *Flavii Philostrati Opera*, 2 Vols., (Leipzig, 1870-71), Vol. II, 260-293. The translations by J. W. F. Fedde, *Die Wissenschaft der Gymnastik Von Flavius Philostratus*, in G. Hirth, *Das gesamte Turnwesen*, (1893) I, 90-126, and Friedrich Cunze, *Philostrats Abhandlung über das Turnen*, in *Jahresbericht des herzoglichen neuen Gymnasiums zu Braunschweig*, (1902), have also been consulted. The translator wishes to acknowledge his indebtedness to Professor William Cranston Lawton whose wealth of information and understanding, gained by a lifelong devotion to the study of Greek and Latin, has been generously shared.

correctly finished; but let science be reserved for those occupations alone which I have named. I except navigation from handwork, since it implies an understanding of constellations, winds, and occult matters. It will be evident why I have stated this.<sup>3</sup> As for gymnastics we designate it as a science, equal in rank to any other; and accordingly it is set forth in treatises for those who wish to apply themselves to it. The old gymnastics, for instance, produced such men as Milo, Hippos-thenes, Pulydamas, Promachos, Glaukos, son of Demylos, and the athletes who lived still earlier than these, namely, Peleus, Theseus, and Herakles himself; in our fathers' time, there were still marvelous athletes, worthy to be remembered, though, to be sure, inferior;<sup>4</sup> but, as it is now, such a change has been brought about in athletics that the majority even feel an aversion toward lovers of gymnastic exercises.

2. I propose to show the reasons why this decline has come about, to set forth all I know for those who teach and those who practice gymnastics, and to break a lance on behalf of nature, which is being slandered because athletes of today are so much inferior to those of the past. For still today she produces lions in no wise of lesser sort than formerly, and the appearance of dogs, horses, and bulls is the same; as for her treatment of trees, the vines and the fruit of fig trees are still the same; and, in gold, silver, and precious stones, she has altered nothing, but reproduces everything now the same as before, even as she herself has ordained. As for athletes, so far as their earlier excellencies are concerned, they have not been left in the lurch by nature—for she still continues to create the courageous, well-formed, and alert, these being natural characteristics—but the lack of judicious training and vigorous exertion has, indeed, robbed nature of her power. How this has come to pass, I intend to show later;<sup>5</sup> first, however, we shall give attention to the origin of running, boxing, wrestling, and the like, and when and where each had its beginning. The records of the Eleans will be kept constantly at hand, for of such matters one must speak most exactly.

3. In the whole range of contests, there are the following light exercises: the stade-race, distance race, the race in armor, double stade-race;<sup>6</sup> the heavy, however, are the pancration, wrestling and boxing. The pentathlon was made up of both; for wrestling and throwing the discus are heavy, and throwing the javelin, jumping, and running, light. Before Jason and Peleus, the wreath was given sepa-

<sup>3</sup> Cf. 14.

<sup>4</sup> Jüthner, I, line 17, Daremberg, Mynas, and Kayser, give ἥττους μὲν οἶδε; Volckmar, however, has ἥττους μὲν εἶδε.

<sup>5</sup> Cf. 44, *et seq.*

<sup>6</sup> There are numerous differences in the several Greek texts given by Jüthner, Volckmar, Daremberg, and Kayser. In this case, Jüthner, 3, line 2, has δίαυλος; Volckmar has ἄλμα; while Daremberg, Mynas, and Kayser have δίαυλος, ἄλμα.

rately for the jump, and also for the discus; and the javelin, likewise, was alone sufficient for a victory at the time when the Argo was afloat. Telamon was best at throwing the discus; Lynkeus, at hurling the javelin; the sons of Boreas, in running and jumping; Peleus was inferior in these things, but he excelled all in wrestling. So when they held contests at Lemnos, it is said that Jason united the five events to please Peleus; and in this way Peleus gained the victory and won the reputation of being the ablest warrior of his time, because of the bravery he showed in battle, as well as for his practice of the pentathlon, which is closely connected with war, since in the contests one also throws the javelin.

4. The origin of the distance race (δόλιχος) was as follows: couriers were accustomed to go from Arcadia to Hellas as heralds of war, and they were enjoined not to ride, but to complete the course on foot. The fact that in the brief course of a day they always covered as many furlongs as the distance race comprises, made them distance runners and trained them for war.

5. The stade-race (στάδιον) came about in this way: when the Eleans made sacrifices, as their law requires, the sacrificial offerings were laid ready on the altar, but the fire was not yet applied. The runners were placed a furlong from the altar, before which a priest, as judge, stood with a torch; the winner kindled the offering, and went forth as Olympic victor.

6. After the Eleans had sacrificed, however, the other Greek delegates who came to participate in the celebration must also make sacrifice. In order, however, that their arrival might not take place without ceremonial, the runners ran a furlong away from the altar, as if to invite the Hellenes, and returned again to the same point, as though to announce that Hellas came gladly. So much for the origin of the double stade-race (διανλος).

7. The race in armor (δρόμοι δὲ ὀπλίται) is ancient,<sup>7</sup> especially the one at Nemea, where they call it the armed race and the horse race; and it is dedicated to Tydeus and his companions, the seven well-known heroes. The armed race at Olympia, however, was established, as the Eleans maintain, for the following reasons: the Eleans began such an implacable war with the Dymanes, that even the Olympian games brought no truce; and when, on the day of the contests, the Eleans were victorious, it is alleged a heavy-armed soldier came running from the battle into the race course, and delivered the happy news of the victory. This is in itself plausible, but I hear the same thing also about the Delphians, when they were waging war against some of the Phocian cities; of the Argives, when they were wearing themselves out

<sup>7</sup> Jüthner, 7, line 1, παλαιοί; Daremberg, Mynas, and Volckmar, πολλοί; Kayser, ποικίλοι.



in a long-continued war against the Lacedaemonians; and of the Corinthians when they were making war in the Peloponnesus itself, and also beyond the boundaries of the Isthmus. However, I have a different notion about the armed race: I believe, namely, that its introduction certainly was originally connected with war, but that it was given a place in the contests to signify the resumption of a state of war, the shield indicating that the truce of God is past and one has need of weapons. And if one listens attentively to the herald, one perceives that he is announcing to the assembled people that the contest for prizes is at an end; and the trumpet sounds the signal of Enyalios that calls youth to arms. This herald's cry commands, also, that they take oil and carry it away, not for anointing, but as a token that anointing is at an end.

8. The armed race of Plataea in Boeotia was esteemed the most notable on account of the length of the course, and the armor which reached to the feet and covered the athlete, just as if he really had to fight; because it was established in consequence of a brilliant feat of arms, the battle with the Medes; because this institution of the Greeks was directed against the barbarians; and especially, too, because of the standing law which Plataea duly promulgated, concerning the announced competitors. That is, with them, one who had once been crowned must give a hostage in case he entered the lists again; for, if he were defeated, he was condemned to death.

9. Boxing is an invention of the Lacedaemonians, and once found acceptance among the barbarian Bebryces. It was best practiced by Polydeuces, on which account the poets sang his praises.<sup>8</sup> The ancient Lacedaemonians boxed, however, for the following reason: they had no helmets, and they considered that fighting with such was not according to the customs of the country; but the shield took the place of the helmet if one understood how to carry it. In order, then, to parry blows directed at the face, and when they came to withstand them, they practiced boxing and sought, in this manner, to harden the face. In the course of time, however, they gave up boxing, and likewise the pancration, inasmuch as they considered it disgraceful to participate in such contests, in which there was danger that, if a single one should yield, Sparta would be open to the reproach of cowardice.

10. Formerly, one was equipped for boxing in the following manner: the four fingers were wrapped with a strap and projected so far that by closing them one could double up the fist; but they were held firmly together by a thong which one wore bound round the lower arm as a support. Now, however, it is different: for one tans the hide of very fat cattle and makes sharp, projecting knuckles; the thumb, however, to avoid excessive injuries, does not share with the other

<sup>8</sup> Theocritus, *Castor and Polydeuces*; Apollonius, *The Argonauts*, Bk. II.

fingers in the blow, so the entire hand may not fight. Thus, they ban thongs of pigskin from the stadia, for they consider wounds from it painful and difficult to heal.

11. That wrestling and the pancration were invented for their utility in war, is proved, in the first place, by the feat of arms at Marathon, which was so performed by the Athenians that it seemed like a wrestling match; and, secondly, at Thermopylae, where the Lacedaemonians fought often with their bare hands, when their swords and lances were broken. And of all the contests which are customary, the pancration is pre-eminent, although it is composed of imperfect wrestling and imperfect boxing. Pre-eminent it is, however, among all save the Eleans; for they, assuredly, look upon wrestling as the test of strength and, to employ a poetic word, "painful," not merely because of the intricate holds in wrestling, which require a supple and nimble body, but also on account of the threefold contest, prescribed among them, so many falls being required. And while they accordingly consider it extraordinary to award the crown in the pancration and in boxing, without an actual contest, they do not refuse it to the wrestler; for the rules of the games expressly permit such a victory only in the tortuous and "painful" wrestling match. And to me the reason is clear why the rules thus prescribe: for if participation in the contest at Olympia is an arduous performance, the training seems still more difficult. As for the light exercises, the distance runner practices running some eight to ten laps, and the pentathlete, some one of the light exercises; the runners, the three kinds of running, the stade-race, the double stade-race, or both. None of all this is hard; for the nature of the light exercises is the same, whether the Eleans prescribe the training, or others. The heavy athlete, however, is trained by the Eleans in that season of the year when the sun dries up the mud most in the lowlands of Arcadia, and he must endure a dust hotter than the desert sands of Ethiopia, and keep at it from noon-day on. Now, among these painful exercises, the most arduous is wrestling. For the boxer, when his time comes in the stadium, will receive and give wounds and will kick shins, but in training he will only carry on a mimic contest; and the pancratiast in actual conflict will employ all forms, which are known to the pancration, but, in training, only this one and again that one. Wrestling, however, is the same in the trial as in the actual contest; for, at both times, it offers proof of how much one understands and how much one can do, and is rightly called intricate; for intricacies do indeed occur in wrestling. Therefore the Eleans award the wreath to the best training—indeed, for training alone.

12. All these, however, apparently, did not gain admittance to the contests at one time, but one after the other, as it was discovered and developed by gymnastic. For example, formerly, until the 13th Olympiad, the Olympian games consisted simply of the stade-race; and

three Eleans, seven Messenians, a Corinthian, a Dymanes, one from Cleonae, were victorious therein, each in another Olympiad, but never the same person in two. In the 14th, the double stade-race began, and Hypenos from Elis won the victory. Afterwards came the contest in long-distance running, and the Spartan Akanthos was victor. The exercise of the men's pentathlon and the men's wrestling match began with the 18th Olympiad, and the victor in wrestling was Eurybatos from Lusoi; and, in the pentathlon, the Laconian Lampis. Many, however, designate Eurybatos also as a Spartan. The 23rd Olympiad called men to the boxing contest, and the Smyrnian Onomastos conquered as best boxer and thus linked the name of Smyrna with a glorious deed. For at one stroke Smyrna surpassed all cities of Ionia and Lydia, all on the Hellespont and in Phrygia, and all nations which inhabit Asia, and won first the Olympian crown of victory. This athlete wrote rules for boxing, which the Eleans observed on account of the expert knowledge of the boxer; and the Arcadians were not offended that they were bound by contest rules which had their origin in effeminate Ionia. In the 33rd Olympiad the pancration was established—which till then did not exist—and Lygdamis from Syracuse was victor. This Sicilian, indeed, was such a giant that he had a foot a cubit long. He is said to have measured off the stadium with as many of his own footsteps as a furlong has cubits.

13. It is said that the boys' pentathlon also was introduced at the 38th Olympiad, and that at that time the Laconian Eutelidas was victor; but never again did a boy enter this sort of contest at Olympia. The victor in the boys' stade-race at the 46th Olympiad—for it was then first instituted—was Polymestor, the shepherd boy from Miletus, who by his fleetness of foot was able to catch a hare. According to one account, the boys' boxing match is said to have begun in the 41st Olympiad, and Philytas from Sybaris is said to have been victor; according to another, it is said that it began in the 60th Olympiad, and that the victor was Kreon from the island of Chios. Damaretos, who, as I believe, came from Hera, was the first, it is said, who was winner in the race in armor at the 65th Olympiad. In the 145th Olympiad the boys' pancration was admitted; this introduction was accomplished with incomprehensible delay, since it was already esteemed elsewhere; for it came late in the series of Olympiads, when Egypt had already been crowned; and also that victory went to Egypt, Naukratis, namely, being proclaimed, since the Egyptian Phaidimos was victor. It seems to me that these exercises could never have been introduced into the contests, thus one after the other, and the Eleans and all the Hellenes could never have become such zealous contestants, if gymnastics had not made progress and trained them; for the victories which have been cited are to be credited to the trainers no less than to the athletes.

14. How then ought we to conceive of gymnastics? How other-

wise than as a science, comprising the art of the physician and of the paidotribe, which, however, is more complete than the latter, and is only a part of the former. To what extent it participates in both, I intend to show. The paidotribe will show all kinds of wrestling holds that exist, specifying the opportune moment, the degree of effort, and the extent of the movement; further, how one is to defend himself, or how one can overcome the defense of the other; the gymnast, however, will also be able to give instruction in that which the athlete does not yet know. Moreover, occasionally, it is advantageous in wrestling and the pancration to be aggressive, to yield to the opponent's advantage, or to parry it, none of which would occur to the gymnast, if he did not understand the art of the paidotribe. So far, therefore, the two arts are alike. But the purging of humors, removing superfluous matter, rendering the hard flexible, and fattening, modifying, or warming any part of the body whatsoever, belong to the science of the gymnast. The paidotribe will either not understand that at all, or, if he should have some knowledge, he will apply it improperly for boys, and thus merely torment youth of noble blood. So much more complete, then, is gymnastic than the fore-named art, but its relation to the art of healing is as follows: illnesses which we call catarrh, dropsy, consumption, and varieties of epilepsy are healed by physicians by injections, healing drafts, or plasters, but gymnastic combats such by means of diet and massage. If, however, one has suffered from a fracture, a wound, dimness of eyesight, or dislocation of a limb, he must be taken to the physician, since gymnastic has naught to do with such things.

15. By this I believe I have shown how gymnastic is related to both other branches of knowledge, but I think I may also make the following observation concerning it. The entire art of healing cannot be mastered by one alone; but one knows about wounds, another has knowledge of fever, a third handles those with eye trouble, while a fourth treats consumption successfully. And since it means a great deal to practice even just a small part of it [medicine] physicians justifiably maintain that they understand the whole of it. But no one, certainly, would dare designate similarly the entire science of gymnastics as his specialty; for he who knows running exercises will understand nothing of wrestling and the pancration; and he who can train in heavy exercises will prove himself otherwise unskilled in the art.

16. The range of the art is as suggested; but the reason of its origin lies in man's natural capacity for wrestling, boxing, and running upright; for, indeed, nothing of the sort would have arisen, had there not been a previous natural cause. And just as the *raison d'être* of the smithy's art is in iron and brass, that of agriculture in the earth and her products, and that of navigation in the presence of the sea, so also we will adhere to the view that gymnastic was native in man, and has



grown together with him. And there is a legend that, when Prometheus lived, gymnastic did not yet exist, and that Prometheus first devoted himself to certain physical exercises; that Hermes, however, introduced the training of others in gymnastic and was admired for the discovery; that Hermes' palaestra was the first; and that those formed by Prometheus were the ones who exercised themselves in the mud and believed that they were formed by Prometheus because gymnastic made their bodies apt and powerful.

17. In Delphi, on the Isthmus, and wherever else on earth contests exist, the gymnast, wrapped in a cloak, superintends the athletes; and no one can force him against his will to discard the same. In Olympia, however, he performs the inspection naked, because, according to the opinion of some, the Eleans wish to convince themselves that the gymnast knows how to endure the toil and heat of summer; according to the assertion of the Eleans, however, for the following reason. Pherenike of Rhodes was the daughter of the boxer, Diagoras, and in external appearance was so robust, that, at first, she seemed to the Eleans to be a man. Therefore, at Olympia, she was unrecognizable under the cloak, and was able to train her son, Peisidoros. He, too, was one well-skilled in the art of boxing, and in no way inferior to his grandfather. When the deception was discovered, they were afraid to kill Pherenike, out of respect for Diagoras and the sons of Diagoras—for the whole family of Pherenike were all Olympian victors—but the decree was promulgated, that the gymnast must lay aside clothing, that he himself might not be left unexamined.

18. There, also, the gymnast carries a strigil, perhaps for the following reason. Covered with the sand of the palaestra, the Olympian athlete must expose himself to the blazing sun. In order that they may not suffer any injury to health, the strigil reminds the athletes of the oil and signifies that they must apply it so copiously that, after anointing, it can be scraped off. Some relate that a gymnast at Olympia once killed his athlete with the sharp strigil, because he had not striven for victory. And I give credence to the story, for it is better to inspire trust rather than mistrust. So then, may the strigil serve as a sword against bad athletes, and let gymnasts at Olympia take precedence over the judges of the contests.

19. The Lacedaemonians also demanded that the gymnasts have a knowledge of tactics, because they recognized in the contests a preliminary training for war; and this is not surprising, since the Lacedaemonians constantly associated even the dance, the most carefree amusement of peace times, with war, for they danced in such a manner as if to evade or throw a missile, leap up from the ground, and manipulate the shield cleverly.

20. The instances in which gymnasts have been of use to athletes, through encouragement, rebuke, threat, or strategy are numerous, and



their enumeration would be superfluous; the most noteworthy, however, may be related. Glaukos of Karystos, who was giving way before his opponent in boxing, at Olympia, was led to victory by Tisias, the gymnast, when he shouted to him to use the "plough-stroke." This meant, namely, to strike the opponent with his right; for in that hand Glaukos had so much power that once, in Euboeia, he had straightened a plough-share, which was bent, by striking it with his right hand as if with a hammer.

21. Arrichion, the pancratiast, who had already been victor at two Olympiads, was competing for the wreath in the following third Olympiad, and was on the point of declaring himself vanquished, but was inspired with a desire for death by Eryxias, the gymnast, when he shouted: "What a splendid memorial, not to surrender at Olympia."

22. As for Promachos of Pellene, his gymnast learned that he was in love, and, when the Olympian games were near, he said: "I believe, Promachos, thou art in love." And when he saw that he blushed, he continued: "Not in order to plague thee have I asked this, but to be helpful to thee in thy love affair. For, perhaps, I shall even put in a good word for thee with the maiden." And, without having spoken with her, he came to the athlete and brought him an untrue, but for the love-lorn youth, exceedingly precious answer. He said: "She will not refuse thee her love, if thou conquerest at Olympia." And Promachos took courage from what he heard, and was not only victorious, but even defeated Pulydamas from Skotussa, even after the adventure with the lions, which Pulydamas had captured at the court of Ochos, the king of Persia.

23. I myself heard Mandrogenes from Magnesia say that he must credit to his gymnast the endurance, which, as a young man, he displayed in the pancration. He related, namely, that his father had died and the house was under the direction of his mother, who was as able as a man. To her the gymnast is said to have written the following letter: "If thou shouldst hear that thy son is dead, believe it; but that he is defeated, believe not!" Out of consideration of this letter, as he said, he summoned up all his courage, so that the gymnast might not be given the lie, nor his mother be deceived.

24. Optatos<sup>9</sup> from Egypt was victor in the race at Plataea. Since, however, as stated, they had a law that that one who is defeated after a victory must die at the hands of the state, and may not participate in the exercises until he has given a hostage, and since no one there wanted to assume so dangerous a security, the gymnast resigned himself to the law and strengthened the athlete for the second victory.

<sup>9</sup>In Jüthner, Ὀπιατός; Kayser, Ἀτταλός; Volckmar, Mynas, Ὀσσατος; Daremberg, Ἀτταλός. Professor Nathaniel J. Reich, Dropsie College, Philadelphia, has kindly given his judgment that Optatos is the most reasonable reading.

For to those who are about to begin a great task, trust, as I believe, brings happy confidence.

25. However, since an abundance of such cases comes to mind when we add the new to the old, let us rather fix our attention on the gymnast himself, what sort he must be and what he must know, in order to be able to have superintendence of the athlete. The gymnast ought to be neither talkative nor unskilled in speech, that the efficacy of his art may neither be injured by garrulity, nor appear too crude, from being unaccompanied by good speech. And he ought to be thoroughly acquainted with the whole science of physiognomy. This I require for the following reason. The Hellanodik, or the Amphiktyon,<sup>10</sup> has to examine a boy athlete on the following points: whether he has a tribe and a native land, a father and a family, whether he belongs to the free citizens and is not a bastard, and, finally, whether he is young and not past boyhood. But whether he is temperate or immoderate, a drinker or a gourmet, and whether he is courageous or cowardly, about that their regulations say nothing, even if they understand it. The gymnast, however, must understand this exactly, since, to a certain extent, he has to judge nature. He should, therefore, know all the signs of character which are in the eyes, by which the sluggish and also the violent betray themselves, as do the inactive, the less enduring, and the immoderate. For the character of the black-eyed is different from that of those who have bright, blue, or blood-shot eyes; different, too, is that of those whose eyes are yellow, flecked, bulging, or sunken; for nature has indicated the seasons of the year by the constellations, and character by the eyes. The nature of the parts of the body, on the contrary, is to be considered, in the following manner, as in sculpture. The ankle must correspond with the wrist, the forearm with the shin, and the thigh with the upper arm; the buttocks must be in harmony with the shoulders, the back with the belly; and, in the same way, the breast should form an arch, like the region below the hips; and the head, the pattern of the whole, ought to be in correct proportion to all the rest.

26. After the close of this exposition, training is not to follow directly, as some might suppose; but the one to be trained is to be stripped and brought forth for an examination of his natural ability, how it is constituted and to what end. For, indeed, how is it seemly, that huntsmen and horse-fanciers take such pains with dogs and horses, that they do not employ dogs for any purpose they like, or the same breed for every sort of game, but some for this and others for that; and that of horses they train some for hunting, others for war-steeds, and still others for the race or chariot, and even these last not indiscriminately, but according as each is intended for a particular side

<sup>10</sup> The judge at Olympia; an official of the Amphiktyonic League.

of the chariot-tongue, or for the lines; but that of men, those who are to be entered at Olympia or Delphi, as contestants for the prize of victory that Herakles himself desired, are left without examination? I demand, therefore, that the gymnast know the correct proportions of which I spoke, and still more the properties of humors.

27. Moreover, there is something more important than this, which also seemed weighty to Spartan Lycurgus. In striving, for instance, to provide Laconia with athletes capable in war, he specified that "maidens take up physical exercises and be admitted to the public foot-races." Naturally, for the sake of the children, and that, as a result of powerful bodily constitution, they might bear vigorous offspring. Then, too, when she comes to the house of her husband, she will not avoid carrying water, or grinding meal, because of exercise from youth up; and, moreover, if she be united with a youth who has participated in exercises, the offspring she bears will be especially excellent—that is, slender, powerful, and healthy. And Laconia became so great in war, because they proceeded in this manner with respect to marriage among them.

28. Since one must begin, therefore, with the birth of man, the gymnast ought to approach the boy athlete and consider him first of all with respect to his parents; whether, when they married, they were young, strong, and free from diseases, such as those which affect the nerves and the eye-sockets and attack the ears or internal organs; for, occasionally, these diseases may disappear with natural development, and in childhood they are latent and unrecognizable, but on advancing to the ephebic age, at the transition to manhood, and when the best years begin to decline, they become evident and discernible, since, at the change of life, the blood undergoes a change. The youthfulness of the parents, if we assume no blemish on either side at marriage, imparts to the athlete power, untainted blood, strength of bone, fresh humors, and a symmetrical physique—indeed, I would maintain that it gives him beauty. Granted that they are unknown, and are not present at the examination of the youth, how then shall we examine his parentage? For our procedure would degenerate into absurdity, were we to put aside the athlete, who literally stands ready to enter the racecourse to strive for the olive or laurel crown, for an investigation of his father and mother, who perhaps died in his tender youth. Instead, a method is required, by which, by looking at the nude athlete, we may be clearly confident as to the nature of his parents. The conclusion a posteriori is laborious and by no means easy, but it is not beyond the limits of science. Therefore, I call it to attention.

29. I have pointed out what kind of offspring the procreation of faultless youthful parents will produce; that of those who are advanced in age is to be determined as follows. The skin of such people

is tender, the collar bones form cavities, the veins stand out, as after hard work, the hips are clumsy and the muscular system weak. When at exercise, these indications increase. They are, for instance, listless on account of coldness, and their blood is crude; their perspiration is superficial rather than springing from the curves and hollows of the body, and they also gain no color from exertion, if we cannot bring out the perspiration; they are also incapable of lifting anything, but have to pause for rest; moreover, their recuperation after exertion is not in proportion to their performance. I judge these unfit for all contests—for manliness is not their forte—but, especially, for the pancration and boxing; for such persons, who do not even have a firm skin, succumb easily to blows and wounds. Nevertheless they are to be trained, but handled with more caution on the part of the trainer, since they are in need of it in exercise and in training. If, in the case of such people, it is merely in respect to a single part that procreation appears to have been at an advanced age, then the defects will be similar, but less evident.

30. The tendency to disease, however, will show in the blood; for it must certainly appear turbid and flooded with gall. And, even if such blood be invigorated by the gymnast, it changes again and becomes turbid; for that which is not of good heredity causes many difficulties. The prominence of the larynx and shoulder-blades may also be a sign, as, likewise a long neck, too much sunken at the jointure of the collar bones. And truly also those with narrow or excessively extended chests exhibit a strong tendency to ill health; for the former, naturally, have the inner organs compressed, do not breathe easily, are not well when exerting themselves, and are plagued endlessly with poor digestion of food; the latter, however, will have heavy, pendulous organs, their breathing will be sluggish, restraining them even when in movement; and food will do them less good, since it goes to the belly more than to the nourishment of the body. So much concerning the heredity of the future contestant; fitness for each sort of contest, however, must be tested in the following manner.

31. He who intends to enter the pentathlon ought to be heavy rather than light, and rather light than heavy; and besides, lean, well-built, tall, sufficiently yet not excessively muscular. He should also have long rather than well-proportioned legs, and lithe, flexible hips, because of the back-swing in javelin-throwing and hurling the discus, as well as for jumping; for he will jump with less pain and break nothing in his body, if he gains a firm footing, letting the hips down slowly. And he must also have long hands and slender fingers, for he will throw much better, if, as a result of the length of finger, the discus be hurled with a sharply crooked hand; and he will hurl the javelin with less effort if the fingers do not have to touch the thong with the tips, because they are too short.

32. He who wishes to excel in the distance race, ought to be strong in neck and shoulders, like a pentathlete, but should have light, slender legs, like the stade-runners; for these set their legs into quick running motion by means of their hands as though they were winged; the distance runners do this at the end, but, at other times, they go almost as in a walk, holding the hands forward in a pushing position, for which reason they need stronger shoulders.

33. Between contestants in the armed race, stade- and double stade-race, no one makes a distinction any more, since the time when Leonidas of Rhodes was victorious in these three events in four successive Olympiads; nevertheless, a distinction is to be made between those who intend to compete in these contests separately, and those who compete in all at the same time. The armed runner ought to be distinguished by a slender waist, well-developed shoulders and supple knees, in order that the shield may be easily carried and supported by these parts. Of the stade-runners, who represent the lightest sort of contest, the well-proportioned are, indeed, quite good, but better than these are those who are not too tall but still somewhat slenderer than the well-proportioned; for excessive height lacks firmness, just as do plants which shoot up tall. They should be powerfully built, for the beginning of a good race is good posture. Their physical proportions should be as follows: the legs should be in proportion to the shoulders; the chest somewhat below the mean and have sound organs; the knees should be supple, the shin straight, and the hands above the average; they should also have a moderate muscular system, for excessive muscles are leaden weights for speed. For contestants in the double stade-race, let those be designated who are stronger than the stade-runner, but lighter than those who run in armor. The participants in all three kinds of races, however, ought to be selected from the best, and should unite in themselves the merits which these separately exhibit. Let no one consider this impossible, for such runners have appeared even in our own day.

34. The boxer should have long hands and a strong forearm and a not . . . <sup>11</sup> upper arm, powerful shoulders, and a long neck. As for the wrists, the thick are heavier for striking; the less thick, mobile and adroit in thrusting. Well-built hips should also support him, for the forward thrust of the hands throws the body off balance, if it does not rest on firm hips. Thick-calved persons, according to my observation, are not fitted for any sort of contest, least of all, however, for boxing; for they are especially sluggish in kicking the shin of an opponent, and, on the other hand, are easily taken unawares by kicking. His shins ought, therefore, to be straight and proportionate, while the thighs should stand out far apart from each other; for the

<sup>11</sup> *Lacuna* in the text given by Jüthner.



figure of the boxer is adapted for attack if the thighs are not close together. It is best if the belly be drawn in; for such people are light and have good respiration. For all that, however, the belly [if it is prominent] gives the boxer a certain advantage, for such a belly hinders blows at the face, in that it checks the force of the blow.

35. Let us go on to the future wrestlers! The normal wrestler ought to be slender rather than well proportioned, but built like the well-proportioned; he should have neither a long neck nor one sunken into the shoulders, for, though, to be sure, that is useful, it, nevertheless, looks deformed rather than athletic, at least if one has a comprehension of such things; how much more pleasing and god-like are those statues of Herakles which are nobly-formed, not sunken. Rather, the nape of the neck should be erect, as in a beautiful, proud horse, the base of the neck reaching down to the collar bone. Well-joined upper shoulders and elevated shoulder tips give to the future wrestler a stately appearance, noble figure, power, and better adaptation to wrestling; for such shoulders are a good protection, even if the neck be turned or bent down in wrestling, since they give the head the support of the arms. A well-formed arm is an advantage in the wrestling match. However, by well-formed I mean an arm of the following sort: thick veins begin in the nape of the neck and throat, one on each side, and, running over the shoulders, and appearing on the upper and lower arm, they go down to the hands. A person in whom they are excessive and visible on the surface, gains no power through them, and such veins are also unpleasing to look at, like varicose veins: but for one in whom they are deeply imbedded and but little distended, they reveal a slight and peculiar *pneuma* of the hands, and keep the arms of older persons young, while, in the younger, they give an appearance of readiness, promising much in wrestling. The breast is best if prominent and arched, for the organs rest therein as in a firm and well-constructed room, noble, powerful, healthy, uniting courage and calculation. The breast, however, is also beautiful, if it is moderately arched, lean all round and marked with lines; for it is then strong and adroit, but, to be sure, less fit for wrestling, though better adapted than some others. People with flat, sunken breasts, according to my opinion, are neither to be stripped nor trained; for they betray themselves by indigestion, unsound organs, and short breath. The belly, in its lower parts, ought to recede, for a pendulous belly is a useless burden for the wrestler. The groins, however, upon which it rests, should not be undeveloped, but even somewhat well-nourished; for such groins are adapted to squeezing everything that presents itself in wrestling, and, when squeezed themselves, will rather cause pain than suffer it. The back is beautiful, if it is straight, but one slightly bent is better adapted to wrestling, because nearer to the wrestling-posture, which is curved and bowed forward. It ought not to be char-

acterized by a hollow back-groin, for this is the result of lack of marrow, and the vertebrae are then easily bent and are occasionally forcibly dislocated, inward, by holds in wrestling. Still this, to be sure, may be more fanciful than true. The hips, set like an axis between the upper and lower limbs, must be flexible, mobile, and firm. This, however, is effected by their size and, by Zeus, a little more than average amount of flesh. The parts under the hips ought not be too emaciated, nor yet too fat—for the former betrays weakness; the latter, unfitness for training—but, for the future wrestler they should be strong and moderately prominent. A flexible side, which imparts mobility to the breast, is fit for attack and defense in wrestling; for such people, if they lie under an opponent, are difficult to conquer, and on the other hand are no light burden for him who lies under them. The rump is weak if it is narrow, when too broad, inert; if well-formed, adapted to all purposes. A well-jointed upper thigh which turns outward combines beauty with strength and supports the whole easily, and, to be sure, all the more easily if the shin which supports it bends out nowhere and the thigh resting upon it forms a straight knee. Ankle bones, which are not straight but slanting and pushed inward, injure the balance of the body as sloping bases do that of firm pillars. Such is the nature of the wrestler, and he will be able, with these characteristics, to execute the pancration on the ground (κάτω παγκράτιον) but the standing hand-contest (ἀκροχειρίεται) less well.<sup>12</sup> Perfect pancratiasts are those who are better qualified for wrestling than the boxers, and better for boxing than the wrestlers.

36. Good athletes, also, are those who are great though of small stature. As such we shall consider the ones who, in size, rank after the thick-set and well-proportioned, but display a magnificent, and, for their size, unusually fine physical structure—all the more, if they do not appear emaciated, but exhibit even some corpulence. Their advantages are of more value in wrestling; for they are mobile, adroit, impetuous, light, agile, and tough, and elude many dangers and difficulties in wrestling, by virtue of the fact that they stand just as firmly on the head as on the feet. In the pancration and boxing, however, they are not good contestants, since the blow of the opponent strikes them from above, and they must bob up from the ground very comically, in opposition, when they themselves deliver a blow. As an example of those who are great though small, we may mention the statues of the wrestler, Maron, whom Cilicia once produced. To be excluded also from this class are those with long chests; for they, in-

<sup>12</sup> The pancration, which combined wrestling and boxing, was a contest in which all powers of the combatants were employed, until one or the other signified his defeat. It included both the standing hand-wrestling and the "rolling," rough-and-tumble fight on the ground.

deed, are able to elude wrestling holds, but they are incapable of throwing any one because of the strain on the legs.

37. Lion-figured, eagle-like, splinter-shaped, and those nicknamed bears: these are the types of athletes. The lion-figured are powerful in breast and hands, but weaker in the hinder part; the eagle-like, similar to these in figure, but lean in the groins like eagles in upright position. These two types produce bold, violent, impetuous people, who, however, easily lose courage in case of failure; and one need not be surprised at this, if one considers the nature of lions and eagles.

38. The splinter-shaped and string-like are both rather slender, with long legs and excessively long hands, but differ from each other in great and small; for the former appear stiff, beautifully delineated and have good limbs, and from that, I think, their nickname comes; the latter, however, are rather limp and sluggish, flexible of body, and are for that reason compared with the string. Some, however, are more daring in holds, and others, the string-like, more restrained and slow.

39. Enduring athletic types are the hard, the muscular, those with narrow waist and cheerful face . . . but, more dependable than they, are the phlegmatic; for the choleric among them are such that, because of the sprightliness of their disposition, they may even go mad.

40. Those likened to bears are roundish, supple, fleshy, less finely articulated and more bowed than upright, hard to throw, agile in slipping out, and enduring in a clutch. And their breath rattles like that of bears when running.

41. The ambidextrous, who may be characterized as people with two right hands, a strange trick of nature, are of invincible strength, hard to ward off and tireless. These characteristics, of course, are due to the two-sided development of the body, which is capable of more than the usual condition. Whence this knowledge comes, I am going to state. The Egyptian Mys, as I learned from older people, was a moderately-big little man, but he wrestled with extraordinary art. He fell ill and swelled up on the left side. When he was about to give up the profession of athlete, he dreamed that he should not be concerned about the illness, for he would be able to do more with the afflicted side than the well and uninjured. And the vision was true; for, since, with the affected parts he knew how to employ wrestling holds which could not be parried, he was dangerous to opponents, and even had advantage from the illness, since his strength lay precisely in his infirmity. That is a miracle and should not be related as normal, but to appear as an exception, more the work of a god who wished to reveal something extraordinary to men.

42. Concerning bodily proportions, then, and whether these or those characteristics are better, there is indeed hypercritical disagreement among those who have not investigated these things intelligently;

but, as concerns temperaments, however great their number, no objection has been raised, either previously or even now, against the opinion that the best of temperaments is the warm-moist; for it consists, like precious statues, of genuine, unadulterated stuff. Free of clay, mud, and superfluous humors are they who lack phlegm and fluidity of the bile, and who are equal to the necessary exertions, have good digestion, are seldom ailing, recover quickly from illnesses, on the contrary, and are tractable and docile in varied kinds of training as a result of their happy temperament. Among athletes the choleric are warm, but dry in temperament and as unproductive for trainers as is hot sand for the sower; however, they are conspicuous for their presence of mind, for this they possess in unusual degree. The phlegmatic, on the contrary, in consequence of coldness, are sluggish in their behavior. These are to be trained by means of the most vigorous movement; the choleric, however, leisurely and with pauses for rest—for the one needs the spur, the other the rein—and one must be dried with dust, the other moistened with oil.

43. So much may be said about temperament according to modern gymnastics, since the old did not even have any knowledge of temperament, but merely exercised the physical power. By gymnastic, however, the ancients understood physical exercise only, whatever its form. Some exercised themselves by carrying heavy burdens; others, by competing in speed with horses and hares, bending or straightening thick iron plates, or by having themselves yoked with powerful oxen, and, finally, by subduing bulls or even lions. Thus did men such as Polymestor, Glaukos, Alesias, and Pulydamas from Skotussa. The arms of the boxer Tisandros from Naxos, who swam around the promontories of the island, carried him far out to sea, thus training themselves and the body. And they bathed in rivers and springs and were accustomed to sleep on the ground, sometimes stretched out on hides, sometimes on pallets of hay from the meadows. Barley bread and unleavened wheaten bread made from pollard served them for food, and the meat they enjoyed was of the ox, bull, goat, and roe; and they anointed themselves with oil of the wild olive and oleaster. Therefore, they exercised without illness, and were apt to grow old late. They took part in contests for sometimes eight, sometimes nine Olympiads, were adapted to heavy military service and fought about the walls, by no means without success therein but rather distinguished by prizes and trophies, regarding war as preliminary practice for gymnastic, and gymnastic as preliminary training for war.

44. When, however, a change had come about, champions became worthless as soldiers, the energetic became sluggards, the hardened became weak, and Sicilian gluttony gained the upper hand, then enervation entered the stadia, and, of course, all the more, when the art of flattery was introduced into gymnastics. Medicine first made use of it, when she took as councillor an art which is good, of course,



but too weak to be used upon athletes, in that it teaches them further inactivity and to sit before exercises chock-full like Libyan or Egyptian meal sacks, puts in more fancy cakes and extravagant cooking, by means of which fastidious persons and voracious eaters are brought up, and sets forth wheaten bread of fine flour covered with poppy seed, fattens them with irregular fish-fare entirely contrary to rule, determines the nature of fish according to the place whence they come in the sea—those being fat which come from the mud; those from the cliffs, lean; those from the open sea, fleshy; sea-weed blossom producing only small ones; and algae, insipid—and, moreover, provides pork with whimsical directions. Namely, they lay it down as a rule that pigs on the sea-coast are to be considered unusable, on account of the sea garlic of which the shores and the sand dunes are full; also to avoid those from near the rivers because they eat cray-fish; and, for a strict diet, to use only those fattened on cornelian cherries and acorns.

45. Such luxury is also a strong stimulus to the sex impulse, and even gave the athletes an impetus to lawlessness in money matters, and to the purchase and sale of victories; for some sell even their honor, as I believe, because they need much; others must buy themselves an easy victory, because they lead a luxurious life. And if one steals or destroys a silver or gold votive offering, the laws against sacrilege pursue him with their wrath; but the wreath of Apollo or Poseidon, for which the gods themselves strove mightily, one can sell unpunished and purchase unpunished; and only among the Eleans is the olive-crown according to ancient belief still inviolable. As for the rest of the contests, however, I will mention among many examples the following one, which explains everything. A boy was victorious in wrestling at the Isthmian Games, after he had promised one of his opponents 3,000 drachmas for the victory. When they entered the gymnasium the next day, the one demanded his money; the other, however, declared that he owed him nothing, for he had conquered against his will. Since that settled nothing, they had recourse to an oath, and, arrived in the sanctuary of the Isthmian god, the one who had sold the victory swore he had sold the god's contest and that 3,000 had been promised him. And he made this confession with a loud voice, without the least hesitation. The truer the affair, even though witnesses were not lacking, the more ungodly and infamous it is. He swore to it, however, on the Isthmus, and in the face of Hellas. What then may not occur in Ionia, or in Asia, to the disgrace of the games. Of this corruption, I can not acquit even the trainers themselves. They come, of course, to training provided with money, make loans to athletes at a higher interest rate than is customary among merchants at sea, and take no concern for the honor of the athletes, but advise them to buy and sell and seek only their own advantage, whether it be in profitable loans to those who are inclined to buy, or in collecting after a successful deal.



So much may be said concerning the haggling traders; for they hawk, as it were, the ability of the athletes, while they take good care of their own advantage.

46. They commit, however, the following blunder also. They strip and train the boy athlete like a grown man, let him fill his stomach beforehand, go walking in the midst of training and belch so that it rumbles. In this way, like bad tutors, they deprive the boys of their youthful love of movement and accustom them to inaction, postponement of work, sluggishness, and a timidity inappropriate to their age. They should practice movement as in the palaestra. I mean, however, the passive movement of the legs as in light massage, and of the arms as in vigorous massage. And the boy should clap to it, since then these exercises are more vigorous. The Phoenician Helix trained according to this rule not merely in boyhood but when he had reached manhood, and excited incomparably greater admiration than all those, so far as I know, who applied themselves to this sort of recreation.

47. Also let us take no heed of the tetrads of the gymnasts, by which the whole of gymnastics has been ruined. By tetrads is to be understood a cycle of four days, on each of which something different takes place. On the first, the athlete is prepared; on the second, intensively engaged; on the third, given over to recreation; and, on the fourth, moderately exerted. The preparatory training is, however, an energetic, short and rapid movement, which arouses the athlete and prepares him for the coming exertion; the intensive, an irrefutable test of the inner strength of constitution; the recreation, the period in which movement is again systematically resumed; the day of moderate exertion teaches escape from the opponent, but if he himself flees, not to relax. And since they plod through this entire method of training systematically, and always repeat the tetrads, they deprive their science of intelligent understanding in respect to the condition of the athlete to be trained. For foods are harmful, wine is detrimental, and so are stealthy eating, anxiety, weariness, and much besides, partly voluntary and partly involuntary. How, in such cases, shall we bring about a cure by means of tetrads and training by fixed rules?

48. Over-feeding will be betrayed by the pendulous brow, panting breath, filling out of the cavities at the collar bones, and the groins at the side, which exhibit a certain voluptuousness. Wine drinkers are marked by a thick paunch, lively blood, and moisture of the groins as well as at the knee. Those who come from the enjoyment of Venus betray themselves at training in many ways. They are, for instance, diminished in power, short of breath, timid in attack, lose their color under exertions, and are recognizable by such signs; stripped, they betray themselves certainly by hollows at the collar bone, relaxed hips, ribs in relief, and coldness of blood. Were we to try it with them, they could not carry off a wreath at a contest. There is a hol-

lowness under the eyes, the heart-beat and perspiration are weak, their sleep, which regulates digestion, is light, their glances are unsteady and reflect the consciousness of love's favor.

49. As for pollution, it is to be sure a discharge of over-flowing health, but the persons nevertheless appear pale, are covered with perspiration and diminished in physical strength, but are well-nourished as a result of sleep, have faultless hips and plenty of wind. Though comparable with those who embrace the enjoyments of love, they are yet not the same; for they experience a purification of their condition, while the others wear themselves out. It is a certain sign of exhaustion, if the surface of the body appears tenderer than usual, and the veins puffy, the arms limp, and the muscular system flabby.

50. The overfed, if they are to undertake either light or heavy exercises, are to be massaged downward, in order that the superfluous weight may be drained off from the heavier parts. The pentathletes are to be trained in one of the light exercises; the runners are not to be strained, but to go leisurely, only at a little more vigorous pace; the boxers ought to practice boxing lightly and only with blows in the air. Wrestling and the pancration are upright contests; but there is of necessity also the contest on the ground. So they ought to practice the contest on the ground, but lying above more than under, and never go head over heels, that the body may not be injured by a wound. And the trainer ought to massage the light as well as the heavy athletes with little oil, chiefly on the upper parts, and he will have to wipe off the oil which he applies.

51. If athletes have too much wine in their system, moderately hard exercises will produce secretion of sweat; such over-full people, of course, ought neither to be trained vigorously nor left entirely to recreation, for it is better to drain off the stale liquid, in order that the blood may not be harmed by it. The trainer should, accordingly, dry him off and scrape him, using a moderate amount of oil, that the sweat pores may not be stopped up.

52. If one comes from sexual indulgence, it is better for him not to take training; for where is the manhood of those who exchange the wreath and the herald's cry for vile sensual pleasure? If, however, they are to be trained, let it be as a warning, that the condition of their strength and their respiration be brought home to them. Both of these are especially severely affected by sexual debauchery. As for the condition of those who suffer pollutions, that is also a phenomenon of sex life, but, as said, involuntary. They are, therefore, to be trained with care, principally to increase their physical power, since they are short in that, and to drive out the perspiration, since they have a superfluity of it. Their exercises ought to be less intensive but long drawn out, that breathing may be exercised. They need an adequate amount of oil thickened with dust, for this means preserves and refreshes the body.

53. Nervous athletes should be mentally influenced by comforting words which encourage them and set them up, but they should be trained together with those troubled with insomnia and poor digestion. Systematic training does them good, for timid souls learn more willingly, which one has to be on his guard against. Exhaustion, perchance, is the beginning of illnesses, and it will be sufficient to give people who have tired themselves out in the clay and sand of the palaestra a gentle relaxation, in the manner described; those tired out in the dust, however, must be trained further again the following day in clay, with a little increase. For sudden rest after exercise in the dust is a bad remedy for fatigue, since it does not preserve the powers but enervates them. Thus, therefore, a more competent science of gymnastic might be developed which fixes attention upon the individual peculiarity of the athletes.

54. A bit of evidence against the tetrads that I have repudiated is the blunder in connection with the wrestler, Gerenos, whose tomb stands in Athens, on the right side of the road to Eleusis. He was, in fact, from Naukratis and was among the best wrestlers, as witness the victories which he had carried off in the contests. He had just been victorious at Olympia, and when for two days thereafter he had made a carousal and had entertained some of his acquaintances in celebration of the victory, he could not sleep, because of the unwonted debauch. On the following day, when he came to the gymnasium, he confessed to the trainer that his digestion was disordered and that he felt indisposed. The latter, however, was vexed, listened angrily, and was displeased because he wished to delay, and to interrupt the tetrads, and, finally, he killed the athlete in the midst of training, from a lack of understanding, since he did not prescribe the training which was in order, even when the athlete was silent. If the tetrads are so constituted and the gymnast so untrained and uneducated, it is no small calamity. For is it not depressing when the stadia lose such an athlete? And what do those who rave about tetrads do with them when they come to Olympia? There, there is dust as I have described it, and exercises according to command; and the Hellenodik also does not train according to a pre-announcement but everything is improvised at the time, and even the trainer is threatened with the whip, in case anything happens contrary to their orders. There is, however, no contradicting their commands, for those who resist them can be debarred from the Olympic games. So much for the tetrads; if we adhere to this, we shall show that gymnastic is a science, and shall strengthen the athletes, and the stadia will flourish as a result of proper training.

55. The *halter* is an invention of the pentathletes, but was invented for the jump, from which it receives its name; for the rules of the game consider the jump a difficult type of contest and inspire the jumper with music of the flute and give him wings with the jumping

weight; that is to say, it is a sure guide for the hands and brings the feet firmly and gracefully to the ground. What that is worth, the rules of the game show. That is, they do not permit the measurement of the leap, if the imprint of the feet is not faultless. The oblong jumping weights, however, exercise the arms and shoulders, the roundish ones also the fingers. Light as well as heavy athletes ought to employ them along with all exercises, excepting recreation.

56. Of the dust places, the clay is fitted for purification and for the restoration of normal conditions in case of surfeit. Brick dust serves to open closed pores and to bring out the sweat; bituminous dust, to warm the parts that have become chilled; the black and the yellow dust are both earthy and good for softening and nourishing, but the yellow dust also imparts a luster and is more beautiful to look at, on a noble, perfectly-formed body. But one must strew the dust with a loose wrist, letting it through the fingers and sprinkling it rather than pouring it on, so that the fine dust may fall on the athlete.

57. The punching bag should also hang ready for the boxers, but above all for those who attempt the pancration. The one intended for boxers ought to be light, since the hands of boxers are to be trained merely for quickness; the one for pancratiasts, larger and heavier, so that, on one hand, they develop firmness of footing, when they obstruct the swing of the bag, and on the other, the shoulders and fingers, when they meet resistance. The athlete should run against it with his head and, in general, go through all forms of the upright pancration.

58. Those sun themselves unintelligently who do it in every kind of sunshine and all without distinction; the experienced and intelligent, however, not at just any time, and only in so far as it does them good. For when there is a north wind, or a calm, the sun's rays are pure and salutary, since they spring from the clear ether; with a south wind and cloudy sky they are moist and unduly hot, and so enervate rather than warm those who are training. I have, therefore, described the days with favorable sunshine. The phlegmatic, however, must sun themselves more, in order to sweat out the superfluous; but the choleric must be kept from it, that fire may not be added to fire. And, of course, those more advanced in age ought to sun themselves, lying inactive, exposed to the sun as if for roasting; those abounding in youthful strength, however, in activity and practising everything, as the Eleans prescribe. The sweat-bath and dry anointing, however, since this pertains to the rougher gymnastic, we shall leave to the Lacedaemonians, whose exercises are similar neither to the pancration nor the boxing match. Still the Lacedaemonians themselves explain that they do not practice these types of contest for the purpose of competition, but merely for the purpose of hardening, and this is entirely in harmony with their flagellation, for a law among them prescribes lashing at the altar.

# Modern Revival of the Folk Dance

By ALICE HAYDEN

INTRODUCTION

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AT SOME time during the past all the arts of the ancient or medieval man have been taken out of their dead silence and put into use again. The arts may be music, painting, writing, or even dancing. The modern revival of so many of these old arts is not so modern as we might think. The Romans and Greeks borrowed and brought life back to many of the old arts of the Egyptians. During the Renaissance, the scholars and artists revived the arts and literature of the Greeks and Romans, and our modern age is trying hard to revive again the arts of all the past civilizations.

This revival of the folk dance in many lands presents an interesting topic. That the dances of the various lands present a similar origin is evidenced by the fact that the dance as a whole in its primitive form was used to express emotions of joy, sorrow, or solemn religious feeling. Since these emotions are revealed by the folk people in their dances, it may readily be seen that the true characteristics of a people can be traced through its folk dancing. Folk dancing is influenced by so many factors that it is hard to state which factor is the strongest. The function of the folk dance is to fill a niche in the every day life, to provide a form of play and recreation and a means of giving back in a happy form the labor and strife of life. In short, the modern world needs this touch of life to make it more complete and to fill the gap which life holds for many people.

So many countries are reviving their folk dances that it is hard to state which has progressed the most along this line. However, because they realize that something must be done in order to preserve their racial characteristics, they are turning to the folk dance for this all-important task. Once again the people are dancing on the village green as in days of old. The ancient festivals, music, ballads, and superstitions are being revived in order to preserve the racial characteristics. Thus the folk dance in many lands has an extremely favorable outlook for the future.

It is hard to state just where the modern revival of folk dancing started. We might go back to the brilliant reign of Louis XIV who brought into his court the dance of the folk people. He held special balls where only folk dances were danced; he encouraged his peasant people to dance and sing. He had court favorites who went out among the peasant folk and danced with them; then brought the dances to the royal court. Other great lovers of dancing, song, and music have pro-



moted the life of the folk dance. But like every other thing of life, the folk dance has gone through stages of evolution and change, sometimes to be forgotten to the world, other times to be handed down from generation to generation, still other times to be modified and changed. So it is that through the efforts of individuals, local groups, organizations, societies, schools, and even national governments, the folk dance has been encouraged, promoted, and advanced until it will live and be danced by the coming generations.

Dancing is universal and is the most elemental of all the arts. The revival of dancing is significant of the abiding, though often forgotten, need of the world for its arts, and of the strange immortality of the arts themselves. This art of dancing truly belongs to the every day life of man, though he often does not indulge in it. It is the simplest of all the arts, the one by which man first expressed his emotions. Why is it then so often forgotten by him? This is truly a difficult question to answer. Probably it is due to the fact that many consider dancing a child's play, or find that they have not the time to indulge in its pleasure. But how much happier and fuller their lives would be, if they danced and sang as the folk peasant did during the Middle Ages! Our modern life is becoming so mechanical that it is bound to affect the dancing to a certain degree. "Real folk dancing is the simple, happy, unsophisticated dancing of peasants which has sprung just naturally from the hearts of people in response to the human need for self-expression, play, and social intercourse as wild flowers spring from the soil."<sup>1</sup> By this statement one can tell that it is different from other forms of dancing and serves a different purpose if used in its original form or spirit. The spirit and attitude of mind are of simple pleasure and interest in doing the dance itself which is interwoven with team play and social intercourse. The folk dances are the traditional rural community recreation of the people and contain the essence of social grouping. They call for the participation of the entire group and provide for them pleasant physical activity, sociability, and forgetfulness of self. The qualities named above give to folk dancing a distinction and characteristic of which other types of dancing cannot boast. Folk dancing has an universal appeal that makes it applicable to our own every day lives.

The value of folk dancing to a recreational program can never be overestimated. The persons engaged in folk dancing are broadening their education and culture by acquiring through this contact a more intimate knowledge of the customs, tradition, and history of other people of the world and at the same time gaining some common ground of interest with them. Folk dancing affords development in social, mental, moral, and physical characteristics which other fields of dancing

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<sup>1</sup> Elizabeth Burchenal, "Folk Dancing as a Social Recreation for Adults," *Playground*, XIV (1920-21), 404.

sometimes neglect. Even the crippled, blind, and deaf can enjoy the pleasures that folk dancing offers to the world.

#### ENGLISH FOLK DANCE SOCIETY

The English Folk Dance Society was founded at a meeting at St. Andrews Hall, London, on the sixth of December, 1911. The good support which the Society was given from the beginning shows the large demand for it. Before the end of the nineteenth century a reaction from the new materialism was setting in; interest in the traditions and practices of the past was reviving. The Folk Dance Society was founded for the purpose of furthering the policy of an active program of restoring traditional arts to popular use. In 1891 Lady Jomme presented to the Folk Lore Congress an entertainment consisting of children's singing games, folk songs, a mummer's play, and other folk performances drawn from traditional sources. It was at this point that the lovers of English folk traditions realized the importance of a national drive to preserve the remaining folk dances and to revive the forgotten ones.

Cecil Sharp realized the importance and need of trained folk dance teachers. With the cooperation of Chelsea Physical Training College, courses were offered in English folk dancing. The markedly successful results proved to be of great value to the English Folk Dance Society movement in its early history.

With the outbreak of the World War in 1914, came the end of the first period of the Society's history. The Society was never reduced to complete inactivity; classes and schools were still continued, but by the end of the war eleven of the twenty-two branches were temporarily inactive. The Y.M.C.A. formed a branch in 1917 and the success was so great that a considerable number of qualified teachers were sent to France. The dances were taught to all the people of the army regardless of rank.

This movement spread from France to the convalescent camps of all the allied forces. The military experts recognized the recreational value of folk dancing.

During 1919 came the task of reestablishing the branches and creating new ones. The English Folk Dance Society created new societies in such organizations as the Women's Institute, the Workers Educational Association, Girl Guides, Boy Scouts, and Girl Scouts. In 1921 there was a noticeable increase in the number of folk dance competitions. In 1923 the problem of developing folk dances in the rural sections was faced. In 1924 a tour by the English Folk Dance Society was undertaken in Holland and a demonstration given in Brussels. In 1925 an official visit was paid the United States and Canada. The same year saw the first all-English Festival held in connection with the Christmas Vacation-School at the end of the year.

Objectives of the Society as formulated in 1911 were:

The instructions of members and others in folk dancing.

The training of teachers of folk dancing, and granting of certificates of proficiency.

The holding of public demonstrations of folk dancing.

The holding of dance meetings for members at which dancing shall be general, and of meetings at which papers shall be read and discussed.

The publication of literature dealing with folk dancing, and kindred subjects.

The foundation, organization, and artistic control of local members in London, the Provinces, and elsewhere.

The supplying of teachers and providing of lectures and displays to schools, colleges and other institutions.

The technical and artistic supervision of the Vacation School of folk song and dance at Stratford-on-Avon, organized by the governors of the Shakespeare Memorial Theatre.<sup>2</sup>

#### DANISH SOCIETY

The Danish Society for the promotion of folk dancing was organized in 1901. This started the movement in Denmark of collecting folk dances, music, and costumes. The idea of forming a folk dance society grew out of a demonstration of Swedish folk dances given in Copenhagen in 1899 by the Swedish Society—"Phelochoras." The campaign for collecting the folk dances, music, and costumes of the Danish people was aided materially by financial help from the government, resulting in the accumulation of a store of valuable material.

The Danish Folk Dance Society has aided other arts besides that of dancing. The great Danish artist, Rudolf Peterson, came for assistance when painting his famous frieze of national costumes in Gruntvig House. Elizabeth Burchenal is indebted to this society for the translation of their work for her folk dance books. The Danish Folk Dance Society was her greatest help in translations necessary to complete her *Folk Dances of Denmark*. She dedicated this volume in the following manner:

"To my friends of the Danish Folk Dance Society who have so greatly honored me by authorizing this translation of their work, this book is gratefully dedicated."<sup>3</sup>

#### SWEDISH REVIVAL OF THE FOLK DANCE

In Stockholm during the past summer, August first to the third, 1930, the *Swenska Ungdomsriegen för Bgdekutter* celebrated its ten-year Jubilee. This society is a direct continuation of the Swedish Folk Dance Ring which was founded at Shansum. It serves to spread the interest

<sup>2</sup> "Fifteen Years Progress," the *Journal of the English Folk Society*. Second Series 1, (1927), 3.

<sup>3</sup> Elizabeth Burchenal, *Folk Dances of Denmark*, 1.

and knowledge of the old rural culture and folk dances of the old Swedish days. Started by a few enthusiastic persons it now has a membership of several thousand men, women and children. The celebration was held in the Shansen, which is an old outdoor museum situated on a big hill overlooking the capital of Sweden. The museum is large enough to allow many groups of dancers to dance at the same time. Guests from Finland, Norway, and Denmark were present, each dancing their own traditional folk dances. To the spectator this presented a scene which was rare and beautiful. Imagine the color, the music, the costumes, the dance, the rhythm, and the spirit that these dancers presented to the human eye!

The Swedish Folk Dance Ring and the Nais Institute have contributed more to the modern revival of the Swedish folk dances than the people love than any other factor.

#### NATIONAL FOLK DANCE SOCIETY OF SCOTLAND

Scotland during the past six years has founded a large national society in order to revive the traditional folk dances. The efforts of this society have been felt in foreign lands as well as in Scotland. The organization charges a small fee of one dollar and twenty-five cents a year which gives to its members in addition to membership, literature of the society, and each year a new music book and instructions. At present there are about six Scottish folk dance books gotten out by this society.

The Scottish Society is spending a great deal of time in research work. Its members have gone into the rural districts and mountain regions to search for forgotten Scottish folk dances. Slowly and surely they are bringing back many of these old traditional dances which would have completely perished but for the work of this society.

Every summer a Scottish folk dance school is held during the first week of August at St. Andrews. The fee for this school is moderate, and the aim is to give instruction to teachers of Scottish folk dances so that they can instruct others. The staff is composed of the most outstanding persons in the folk dance field.

Thus, this organization, only six years old, should be an inspiration to other folk dance societies of the world.

#### AMERICAN FOLK DANCE SOCIETY

The American Folk Dance Society was formed in 1916 under the direction and leadership of Elizabeth Burchenal. To this society fell the task of seeking and sifting out the music and patterns of the folk dances which naturally belong to America. Its members sought the old pioneers who danced these dances as young men and still clung to them as a part of their present life. The American Folk Dance Society also helped to revive the dances of other nations. To foreign born citizens this proved a remarkable success. They had to bring forth their national costumes

which were hidden in treasure trunks; they lived again the happy days of their fatherlands. This brought about an exchange of dances, and America became the home of many foreign folk dances. Today folk dancing is adding greatly to the recreation of hundreds and thousands of men and women in the cities. Shy as they may be on the ballroom floor, they always take their places when a folk dance tune is struck up.

Since the history of America is so closely connected with the folk lore and dances of all nations, it is her duty to do all she can to keep alive an interest in these dances.

#### INTERNATIONAL FOLK DANCE FESTIVAL

The International Folk Dance Festival was held in London, July, 1935. The Festival was sponsored by the English Folk Dance Society and the British National Committee on Folk Arts. The main objectives of the Festival were as follows:

1. To promote understanding and friendship between nations through the mutual interest of folk-dance.
2. To demonstrate the value of folk-dance in the social life of today.
3. To study by means of comparison the contrast, the origin, and the relationship of the folk dance of various countries."<sup>4</sup>

The general program of the Festival dealt with the survival and revival of the folk dances in which about twenty countries participated. Besides the actual dancing many interesting topics were considered, the discussion of the group centering around the surviving traditions of dances, ways and means of reviving the folk dance in towns and rural communities, the establishment of an International Bureau of Folk Dance, and the organization of an exhibit of musical instruments used for the folk dance.

#### TAYLOR FOLK DANCE TOUR

"The purpose of the Taylor Folk Dance Tour is to enjoy class work in folk dancing with native teachers and students in their own country, and to attend folk festivals and exhibitions."<sup>5</sup>

On this tour the most important Folk Dance Festival of Europe was held at Copenhagen in July, 1931. One thousand dancers attended representing Norway, Sweden, Ireland, Denmark, and Finland. In Stockholm the famous folk dance team danced at the "Shansen," the national outdoor museum. In England the Folk Dance Exhibitions in London were seen.

Study courses were conducted at Oslo, Norway; Nais Institute, Florla Station, Sweden; Copenhagen, Denmark; and at Malraven, England. The instructors included the following: Miss Aase Meier, Director

<sup>4</sup> *Program of International Folk Dance Festival*, 1935.

<sup>5</sup> G. Taylor, *Folk Dance Tour* (Pamphlet), 1931.



of Danish National Society for Folk Dancing; Faculty of the English Folk Dance Society; and the Faculty at Nais Institute.

The Folk Dance Tour was under the direction of Genieve Taylor, a person well qualified to lead the group. Formerly music director of the State Normal School at Duluth, Minnesota, and at Dillon, Montana, she also taught at the Cornish School of Music, Art, Drama, and Dance in Seattle, Washington. Miss Taylor studied with Cecil Sharp and was awarded the Country Dance Certificate by him. She spent the summer in Europe several years ago in pursuit of folk dances in the Scandinavian Countries and in London.

#### AMHERST FOLK DANCE SCHOOL

The Amherst Folk Dance School is a federation of American branches of the English Folk Dance Society. This school is for the benefit of the beginner as well as the advanced student of folk dancing. In the morning, classes are conducted for those who desire Morris, sword, and country dances. The afternoon is open for recreations such as tennis, swimming, hiking, and horseback riding. At night there are lectures on the traditional folk dances of England, classes in singing games, country dance parties, and public demonstrations. The staff is composed of men and women noted for their interest and work in the folk dances of England. There are such people as Maude Korples, of London, former secretary of Cecil Sharp. The majority of the staff are chosen from the approved teachers and certified members of the English Folk Dance Society.

The Amherst Folk Dance School is open to all people interested in folk dancing. Pupils and instructors go there from all parts of the United States to gain instruction, knowledge, skill, and appreciation of the folk dances of England.

#### INTERNATIONAL CONGRESS OF POPULAR ARTS

"An International Congress of Popular Arts, convoked by the Assembly of the League of Nations on the proposition of the International Committee of Intellectual Cooperation, was held at Prague from October 7th until the 13th, 1928."<sup>6</sup>

There were thirty-one nations represented at the Congress. In a preliminary announcement issued by the International Committee the object of the Congress is explained as "being intended no less to promote the interests of science than to realize its ideal of bringing the people of the world into closer contact. It was of the opinion that the opportunities afforded by this Congress of interchanging ideas and examining the various manifestations of popular art should demonstrate that

<sup>6</sup> "International Congress of Popular Arts," *Journal of the English Folk Dance Society*, 2 (1928), 49.

underlying the peculiar features of different national civilizations a common basis of art and culture will be found."<sup>7</sup>

The Congress was divided into the following sections:

1. History, Methodology, Museology, Generalities.
2. Popular arts in wood, stone and metal, pottery, glassware.
3. Textiles, embroideries, lace work, costume, basket work, etc.
4. Music and song (choral and solo).
5. Dance and dramatic representation.

The Congress was given an opportunity by the English Folk Dance Society to see the three types of English folk dancing: the country dance, the sword dance, and the Morris dance given by a special team from England.

Suggestions for an international atlas of popular art and folk lore, a general bibliography of the subjects, and collection of books and documents were projected with the suggestion that the Institute for Intellectual Cooperation at Paris might be the centre of these activities.<sup>8</sup>

#### MUSICIANS AND THE FOLK DANCE REVIVAL

Great musicians of the world today have been affected by the modern revival of the folk dance. In fact, many of them have helped to stimulate and advance this movement. They have wanted to bring new material into their music, something that is different, so they have turned to the music of the folk people. They have revived the folk music of the old masters, such as Wagner, Beethoven, Mozart, and Brahms with such success that the public is always ready to hear it. Percy Grainger has probably done more for this cause than any other musician of this age. No musical program is complete without the playing of an old traditional folk song or dance of some nation.

#### FOLK DANCING IN THE PUBLIC SCHOOLS, ON PLAYGROUNDS, AND IN CAMPS

The public schools of America have been affected by the modern revival of the folk dance. They realize its importance to the needs of the child and have developed it along with their physical education programs. So far, only the larger school systems have adopted a definite plan for folk dancing in their physical education programs, but the smaller schools are gradually building up this part of their recreational program.

All modern educators realize that the child is peculiarly responsive to the appeal made by rhythm. They also realize that folk dancing is a moderate and healthful form of exercise and has valuable social contact. It gives opportunity for learning by doing rather than being told how to

<sup>7</sup> *Ibid.*, p. 49.

<sup>8</sup> *Journal of the English Folk Dance Society*, 1928, Second Series No. 2, 49-51.

do things. It is a great pleasure to the child to be allowed this delightful experience; at the same time he is developing skill and bodily control.

Elizabeth Burchenal, chairman of the organization committee of American Folk Dancing, is in charge of a festival given each year by the girls of the Public School Athletic League. This festival is given at Central Park, New York City, and requires a meadow of twenty-five acres, forty policemen, and two hundred Boy Scouts. There is no effort to give a performance, but ten thousand children enjoy a happy, beautiful, play time together. The nations of the world are represented on this occasion in song, dance, costume, and spirit. Many of the children dance the folk dances in costumes worn by them or their mothers in their native lands; so it is easy to realize the vigor and spirit they put into this wonderful festival!

Folk dancing is especially good for the average school boy of the world. Boys need rhythmic training and respond to it as readily as girls. They like best the clogs, Indian dances, the dances of Robin Hood. These dances are done without self-consciousness, and may be given to any group of boys.

Concerning folk dancing for the high school girl we quote Miss Edna Cole, Director of Physical Education for High School Girls, Cheyenne, Wyoming:

During all times folk dancing has revealed the ideas, ideals, and thoughts of the common people of the various nations. As such, folk dancing can be correlated very well with other high school subjects—social studies, English, music, and art. Furthermore, jazz dancing seemed to fit the mood of the good times of the late twenties, while folk dancing is in accord with our more leisurely times. Moreover, it satisfies two fundamental desires of high school girls; namely, the desire for group fellowship and the desire for leadership. Where is there a better place than in folk dancing for each girl to contribute to and feel a part of a large cooperative unit and also to show outstanding ability, achievement, and originality!

The development of the modern playground movement has been a great help to folk dancing. The playgrounds all over the United States have introduced folk dancing into their programs. Like all the other organizations, they realize the value of folk dancing, and have undertaken to give to the children the best possible training along this line. The children respond better than other groups when folk dance tunes are played. The playground leaders of America are seeking instruction in folk dancing so that it may become one of the most important activities in the national movement.

The Folk Dance Camp of the English Folk Dance Society of America was held at Pine Tree Camp, Bournedale, Massachusetts, from August 18 to September 1, 1935. The program was devoted to Morris and country dancing. The summer camp is open to people who desire to participate in folk dancing and enjoy it to the fullest extent. A cer-

tificate is awarded by the Society to each person who passes the examination.

#### RADIO AND THE FOLK DANCE

One would hardly connect modern inventions, such as the radio, with the revival of the folk dance. However, from London, on May 1, 1926, from Station EFDS, Mr. Kennedy, in announcing a country dance party, said that in many places in England on that day the folk dances were known only as traditions, but that the status would soon change. In brief, he said,

"And now the Country Dances are coming into their own again. In those places where tradition still lingers, they are twice blessed; they are great fun for the young people to whom they are new, and very welcome to the dancers of former days, because they are old; and when all's said and done, we don't ever hear any tunes that come up to these old tunes!"<sup>9</sup>

At the International Congress of Popular Arts, a resolution was passed in favor of an international wireless concert of folk songs to be relayed to as many stations as possible in different countries.

The radio gives special instruction and talks on the folk dance. Certain stations offer special hours of folk-dance lectures.

#### FESTIVALS AND PAGEANTS

Festivals, pageants, and celebrations still hold an important place in the lives of the people of today, who cling to the traditional celebrations more than to any other form of amusement. In some cases these have lost their original meaning, but they afford the same enjoyment to the people of today that they did to those of a hundred years ago. These celebrations have helped to preserve many of the old folk customs and dances that probably would have been lost otherwise. May-Day celebrations, New Years, Hallowe'en, Spring, and other festivals are only survivals of the old folk celebrations.

#### THE DANCE SECTION OF THE A.P.E.A.

The work done by the Dance Committee of the A.P.E.A. for the promotion of the dance, in all its forms, cannot be overestimated. Its members have not limited their interest to one type of the dance but have appealed the cause of each kind, and print, from time to time, in the *Journal of Health and Physical Education*, articles covering a wide range of activities. Furthermore, in April, 1934, the Dance Section issued its first column in the same periodical. The Advisory Committee of the Dance Section devotes a special section to the folk dance. All persons interested in the folk dance and wanting special assistance along this line should secure the aid of this section.

<sup>9</sup> "Three Meet, or the Pleasures of the Town," *Journal of English Folk Dance Society*, 1928 (Second Series), 9.

## NATIONAL RECREATION ASSOCIATION

The National Recreation Association of America offers a well-rounded program to people of all ages. The small child finds story telling, wading pools, and games for his pleasure on the playground; the school boy or girl finds ample recreation in the form of sports, swimming, art, music, and dramatics; the man or woman finds games and other activities suitable to his age and interests. However, there is one main activity that all ages may enjoy together—namely the folk dance—which the Recreation Association also sponsors. Folk festivals are held and old and forgotten customs are revived. The Association recently sponsored a Pennsylvania Folk Festival, which stimulated the revival of many dances. So great was the success of this celebration that newspaper men, college instructors, and members of other associations wanted to see the celebration. The Pennsylvania Folk Festival under the direction of Mr. George Korson and Miss Irene D. Welty has proved to other associations that a folk festival can be produced in this country. Although folk festivals are held often in European countries, they are more or less new to this part of the world. America has become the home of so many different foreign people that we are rich in folk lore and dances. The National Recreation Association sponsors other phases of the life of the folk people, such as, music, art, dramatics, customs, and lore. That the people who are interested in the modern revival of the folk dance will find a willing helper and supporter in the National Recreation Association of America is evident.

INFLUENCE OF INDIVIDUALS ON THE MODERN REVIVAL  
OF THE FOLK DANCE

Cecil Sharp, a British writer and musician, was destined to become one of the leading factors in the revival of the English folk dance. As a young man, he was considered by his friends to be a musical crank. In 1833 he went to South Australia where he founded and organized his own school of music. Later he became principal at the Hampstead Conservatory, and in 1911 he was elected president of the English Folk Dance Society. He has done more than any other person to collect and search for the old traditional folk dances of England. America is also indebted to him for the revival of many of her old folk dances. During one of his numerous visits to America, he revived many of the old national melodies of the Appalachian Mountains.

The amount of folk dance material that Cecil Sharp has collected and given to the world cannot be overestimated. Among his works are included the following: *A Book of the British Songs*; with C. L. Narson, *Folk Songs from Somerset*; *The Dance, a Historical Survey of the Dancing in Europe*; *American-English Folk Songs*; *Folk Songs for Use in Schools*.



Early in 1899 while Cecil Sharp was spending his Christmas vacation at Oxford, he saw a team of Morris dancers perform their annual dance in the snow. It was a traditional team that had inherited the dance from distant forefathers too remote to be stated. Cecil Sharp at once sought for the origin of the dance, and to everyone's surprise, found that it originated on that island. It now is danced all over the island, and in all parts of the world—probably never to be forgotten again. This is only one example of Cecil Sharp's work in reviving the folk dances of England.

Charles Raybold, an Englishman and a pupil of Cecil Sharp, succeeded Sharp in his work in America. Mr. Raybold lectured and taught folk dances in many of the colleges and universities in this country. He became connected with the Fairhope Organic School at Fairhope, Alabama. He has written several books on Folk Dancing and was known all over this country for his activities in this field. His work and influence will live for many years to come.

The name of Elizabeth Burchenal will always be connected with that of dancing. She has not only contributed to the modern revival of the folk dance in our own land, but the world over. She is known and respected by all the nations of the world. Her influence is generally felt in every folk dance society of the world, and to her they are indebted for the revival of many of their traditional folk dances.

Folk dancing first appealed to Miss Burchenal because of her own delight and joy in it. She wanted others to share this same delight and joy, and so she set about to build a program to fulfill this ambition. She first introduced folk dancing in a teachers college in Colorado. This proved such a great success that she organized and directed the newly formed girls' branch of the New York Public School Girls League. It was there that she started her May Day Festival which today is celebrated all over the United States and in many parts of the world.

Foreign nations often seek Miss Burchenal's advice and aid. The League of Ireland, the English Folk Dance Society, the Danish Folk Dance Society, Swedish Folk Dance Society, and many other societies have asked for her help.

The publishers always welcome articles and books written by Elizabeth Burchenal on folk dancing. She has written articles especially for *Playground* (now *Recreation*) on folk dancing in order to stimulate its growth in the world. She has published folk dances of all nations. She has searched, hunted, and found folk dances that the world had forgotten. She has written much on the folk dance that appeals to the general public. She has organized movements for the revival of the folk dance the world over, and has talked on the Chautauqua platform to audiences who hardly knew what folk dance is.

The late Mrs. F. H. Leather of England realized the importance of

the life and history of the peasant and laboring classes of England as few people have. The *Folk Lore of Herfordshire* covers the whole field of folk lore; song and dance form only a part, though an important part, of the subject matter. She was assisted by Mr. Sharp and Dr. Vaughn Williams in obtaining information concerning the folk dances and songs.

Henry Ford, one of the world's richest and greatest manufacturers, has taken time to join this movement. Six years ago at "Wayside Inn," Mr. and Mrs. Ford held an old-fashioned dance which was to be the beginning of this movement. It was such a great success that Mr. Ford decided to establish it for the pleasure of the people who worked in his factories. At Dearborn, Michigan, he engaged a dancing instructor of the old school, and an old-time fiddler. His first classes consisted of children, but later the adults joined, too. Mr. Ford advocated the American folk dances in preference to foreign ones. Today Mr. Ford is an example to other great industrial men to provide this type of recreation for their employees.

Isadora Duncan, dancer of world-wide fame, turned to nature for the majority of her inspirations. She was in deep sympathy with the dances of the folk people because they expressed many of her thoughts. In an article on the "Renaissance of the Dance" Miss Duncan explained why there is such great need to turn back to the simple life of the peasant folk. According to her idea the folk art has been degraded rather than improved in recent years. The democratic spirit of the modern age has tended to standardize everything of life, even dancing. Folk dancing is interwoven with local tradition and custom so deeply that it can never become standardized.

Effie Shambaugh, Assistant Supervisor of Physical Education in the University of California, is one of the outstanding leaders in the revival of the folk dance and one of the main contributors to its book world. In the March issue of the *RESEARCH QUARTERLY* her article on "The Objective Measurement of Success in the Teaching of Folk Dancing to University Women" shows the advancement of the folk dance in the educational world. "The problem of objective measurement of success was restricted to (1) measurement of knowledge of folk lore, (2) measurement of attitude toward foreign people, and (3) measurement of motor response in rhythm."<sup>10</sup>

Mary Wood Hinman has contributed much to the richness of the folk dance, devoting her time to the study of not only European folk dancing but also American dancing. She lives and dances the folk dance as the peasants did long ago. Miss Hinman's interest has been so great

<sup>10</sup> Mary Effie Shambaugh, "Objective Measurement of Success in the Teaching of Folk Dancing to University Women," *RESEARCH QUARTERLY* VI: 1 (March, 1935), 33-38.

that she has investigated the dances in their original setting; odd and rare places of the world have seen her literally dig the earth for old and forgotten treasures of the folk world. She has explored parts of the lands that the rest of us have failed to explore. Her efforts have been more than rewarded. Old folk lore, folk music, and folk dances have been revived and put back in their original setting. Because of her intensive study Miss Hinman can fully realize the value of the folk dance and its place in the world. Her contribution to the literature of the folk dance can never be overestimated. Her folk dance books are used by all nations of the world. She has not only confined her work to books but also has helped the progress and establishment of many folk dance societies. Furthermore, at the various conventions her leadership in folk dancing has been more than appreciated. Our indebtedness to Miss Hinman as a leader in the revival of the folk dance will never be repaid, appreciated, or realized.

#### CONCLUSION

The folk dance has played such an important place in the lives of the people that its value to them can never be overestimated. They hardly realize its gradual development from the dance of primitive man into their own dance or its relation and intermingling with religion, music, ballad, superstitions, pageants, and festivals. To them it is often the only pleasure in which they can completely forget their troubles and hardships. It is no wonder dancing to them was prized above any other type of enjoyment.

Many factors determine the types of the folk dance of each country: the climate, the geographical location, the type of government, the social order, the racial characteristics, all enter into the building of the folk dances. It is, therefore, clearly seen why the world has such a large variety of folk dances.

The folk dances have been handed down to the present generation, which must preserve, revive, and search for traditional folk celebrations and dances. It is the task of the present generation to carry on the modern revival of the folk dance. The older generation has started the movement with such force and vigor, that the younger generation should carry it on in a like manner and pass on to the coming generations this heritage that has come to them out of the past.

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# A Study of the Performance of Japanese Boys and Girls in Physical Education Activities

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There has existed for some time in California a curiosity as to the performance of Japanese boys and girls in comparison with that of other children. Recently data have been collected by which such a comparison could be made. These data include:

1. Record of elementary school boys and girls collected for the formulation of the California Achievement Scales in Physical Education Activities.

2. Records of secondary school boys collected in the Los Angeles City School District under the direction of Mr. Martin H. Trieb, Assistant Supervisor of Physical Education.

3. Records of college men collected at the University of California at Los Angeles.

With the elementary data, boys and girls were classified and scored as to performance by means of the tables contained in the Elementary School Achievement Scale Manual.<sup>1</sup> Secondary school boys were classified and scored according to a table similar to that set up for the elementary school, and college men were classified and scored according to tables set up for that purpose.<sup>2, 3</sup>

In the case of elementary school boys and girls, and secondary school boys, scores were grouped according to *type of event* in order to secure a larger number of cases. It was possible to do this because of the fact that identical scores on different events represent the same relative performance. Since all available records of Japanese boys and girls were used, the group may be considered to be an unselected one.

The reliability of the difference between means was computed in terms of the standard error of a difference. When differences divided by their standard error equal three or more, complete reliability is practically assured, that is, a difference always greater than zero will be found.

<sup>1</sup> N. P. Neilson and Frederick W. Cozens, *Achievement Scales in Physical Education Activities*. (New York: A. S. Barnes and Company, 1934.)

<sup>2</sup> Frederick W. Cozens, Martin H. Trieb, and N. P. Neilson, *Physical Education Achievement Scales for Boys in Secondary Schools*, (New York: A. S. Barnes and Co., 1936).

<sup>3</sup> Cozens, *Achievement Scales in Physical Education Activities for College Men*, (Philadelphia: Lea & Febiger, 1936).



## SUMMARY

1. In running events and in combined or all-round performance, Japanese elementary school boys show a superiority over other boys in the same school group. (See Table I).

2. A superior performance in running events is also indicated for Japanese girls, though the  $D/\sigma d$  is slightly less than it should be to indicate superiority in all-round performance. (See Table II).

3. Secondary school Japanese boys appear to be superior in jumping events but in combined performance are not significantly better. (See Table III).

TABLE I  
SHOWING PERFORMANCES OF ELEMENTARY SCHOOL  
JAPANESE BOYS IN VARIOUS EVENTS

Classification of Events	Mean*	S.D.*	Number Cases	Diff.*	S. E. of Diff.	D $\sigma d$
Running .....	57.1	18.7	415	7.1	.975	7.28
Jumping .....	51.3	15.9	406	1.3	.855	1.52
Throwing .....	49.9	16.3	198	-0.1	1.204	.08
Kicking .....	55.6	16.4	29	5.6	3.07	1.82
Arm-Strength .....	47.3	25.5	67	-2.7	3.13	.86
Combined Performances .....	53.3	18.0	1115	3.3	.56	5.90

\* Shown in score form. Score of 50 equals mean for all children. Standard deviation for all children equals 16.67. Although many more records were available, the figure 2500 was taken to represent all other boys than Japanese in each group of events. This notation applies to all tables.

TABLE II  
SHOWING PERFORMANCES OF ELEMENTARY SCHOOL  
JAPANESE GIRLS IN VARIOUS EVENTS

Classification of Events	Mean	S.D.	Number Cases	Diff.	S. E. of Diff.	D $\sigma d$
Running	53.6	17.8	303	3.6	1.08	3.33
Jumping	51.3	13.7	149	1.3	1.19	1.09
Throwing	47.2	16.9	160	-2.8	1.375	2.04
Kicking	54.1	18.0	129	4.1	1.62	2.53
Combined Performances	51.9	17.0	741	1.9	.647	2.94

TABLE III  
SHOWING PERFORMANCES OF SECONDARY SCHOOL  
JAPANESE BOYS IN VARIOUS EVENTS

Classification of Events	Mean	S.D.	Number Cases	Diff.	S. E. of Diff.	D $\sigma d$
Running	49.7	17.6	209	-0.3	1.26	.24
Jumping	55.8	16.5	161	5.8	1.34	4.33
Throwing	47.8	16.0	216	-2.2	1.14	1.93
Arm-Strength	50.4	21.9	213	0.4	1.54	.26
Combined Performances	50.8	18.4	799	0.8	.672	1.19

4. The college Japanese men seem to hold a distinct advantage in performance in four of the seven events and in total score despite the fact that only 77 cases were available. (See Table IV).

TABLE IV  
SHOWING PERFORMANCE OF COLLEGE JAPANESE  
MEN IN VARIOUS EVENTS \*

Classification of Events	Mean	S.D.	Number Cases	Diff.	S. E. of Diff.	D σd
Baseball Throw for Distance	56.5	14.3	77	6.5	1.66	3.92
Football Punt for Distance	45.1	17.7	77	-4.9	2.04	2.40
Bar Snap for Distance	55.6	10.8	77	5.6	1.27	4.41
Standing Broad Jump	58.9	12.4	77	8.9	1.45	6.14
Dip (on parallels)	53.4	13.0	77	3.4	1.52	2.24
Dodging Run	56.1	15.1	77	6.1	1.75	3.48
Quarter Mile Run	53.1	15.6	77	3.1	1.81	1.71
Total Score on Seven Tests †	380.1	69.4	77	30.1	8.05	3.74

\* These events are those given to all entering men in the General Athletic Ability Test at the University of California at Los Angeles.

† Standard deviation of test battery=76.6; mean=350. Mean of single events=50; standard deviation=16.67.

5. One pertinent question may be raised in regard to this study:

Should the same age-height-weight classification be used for Japanese children as for others, on account of the possibility that Japanese children may vary considerably from others in type of stature and in time of attaining growth?

6. In general it may be said that Japanese children perform as well and in some instances significantly better than other children. Whether superiority, when it occurs, is due to native ability or to improper classification cannot as yet be determined and should be a matter for future study.

## Studies in the Physiology of Activity: II. On Certain Reactions of College Women Following Participation in Two- Court Basketball

By PAULINE HODGSON

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THERE have been many modifications of the game of basketball since its origin in 1892, each designed to effect a more satisfactory adaptation of the game to the interests, needs, and capacities of the various groups of participants. The experience and observation of many players and students of the game warrant its classification as an activity requiring and consequently tending to induce a high degree of development of the diverse powers of the individual. Few systematic studies have been made, however, and few data have been reported as to the demands of the game or the reactions of individuals to it. It was the purpose of the present investigation to study certain physiological reactions of college women to the game of two-court basketball, in order to obtain data essential to the evaluation of the game from the standpoint of organic demand.

### PROCEDURE AND METHODS

Four subjects (See Table I), students at the University of California at Berkeley in 1934-35, were selected for this study on the basis of their extensive previous participation in the game of basketball, skill in the techniques of the game, and experience in playing various positions. All had played the three-court game for several seasons during the high school and college periods, and the two-court game for at least one season. Among the entire group of students electing advanced basketball as a sport under the Women's Athletic Association, these four ranked as superior, judged by objective skill tests, and the subjective estimate of two coaches, and other players. Two of the subjects played the position of guard, two played in the forward position; one forward and one guard had usually played in the center in the three division game. All were majoring in physical education, were qualified for regular physical activity by the university physicians, and were participating in other vigorous physical activities from two to four hours per week. They understood the purpose of the study and were interested in

both the practical and theoretical implications of the results. Their cooperation was at all times intelligent and sincere.

Observations were made during the last seven weeks of the 1935 season, during regular practice periods and interclass tournament games, the attempt being made to study the game under natural rather than artificial conditions. In accordance with custom of several years, two weekly practices were held throughout a season of eleven weeks, one from 5:00 to 6:00 P.M. on Tuesday, the other from 7:30 to 9:00 P.M. on Thursday. All practices were held indoors, the dimensions of the playing court being 83 by 37 feet.

TABLE I  
SUBJECTS—PHYSICAL DATA

Subject	Age (years)	Class	Height (Inches)	Weight (pounds)	Vital Capacity (liters)
V .....	20	Junior .....	64.8	136	3.7
VII .....	21	Junior .....	67.0	145	3.7
VIII .....	18	Sophomore .....	64.0	129	3.7
X .....	20	Junior .....	67.2	150	3.6

The practice periods, in which observations were made, included approximately fifteen minutes of technique and team plays, and three eight-minute periods of scrimmage, with an interval of at least two minutes between periods. Time-out was taken for coaching at times. During the tournament, official games of four eight-minute quarters with regulation intermissions and time-outs were played. A record of the participation of the subject in the game, including the distance traveled and duration of active play, was the purpose of a study being made by other investigators, who have generously made a summary of their results available.<sup>1</sup>

Determination of respiratory metabolism, pulse rate, systolic and diastolic pressures, and respiratory rate were made under resting conditions in the hour immediately preceding the game, and during a recovery period of one hour immediately following the play. Observations were made for each subject at three different periods of basketball. As indicated in the Tables IIa and IIb, these periods included for each subject both practice and tournament games, and, in most cases, both afternoon and evening meetings. All observations were made in a room immediately adjoining the gymnasium. The subject assumed the reclining position as soon as possible after the signal terminating the game and was connected with the experimental apparatus in the shortest possible time. This varied somewhat with the position of the player at the end of the game but was usually between 15 and 20 seconds. The moment at which the connection between the subject and the respira-

<sup>1</sup> Indexes throughout refer to the Bibliography at the end of the article.

TABLE II<sub>a</sub>  
RESPIRATORY REACTIONS FOLLOWING TWO-COURT BASKETBALL

SUBJECT	V.			VIII.			VII			X		
	G	G	G	G	G	G	F	F	F	F	F	F
Position	Prac- tice	After- noon	Tourna- ment	Prac- tice	After- noon	Tourna- ment	Prac- tice	After- noon	Tourna- ment	Prac- tice	After- noon	Tourna- ment
Game	115	166	148	160	137	180	245	260	261	198	216	198
Time	28	27	16	28	35	21	31	27	32	35	30	45
Average distance travel- ed (feet per minute)	.051	.032	.033	.052	.036	.034§	.039	.033	.034	.061	.059	.052
Duration of active play (percent of total play- ing time)	55	30	55	50	55	60	60+	35	35	55+	60+	50+
O <sub>2</sub> debt (liters per kilo- gram)	256	266	186	272	212	173§	213	228	235	288	292	224
Duration of recovery* (minutes)	294	246	155	317	264	196§	254	254	284	412	298	298
O <sub>2</sub> of the first recovery period† (per cent of resting)	3.66	3.03	2.00	4.20	3.28	2.53§	3.72	3.51	3.24	4.62	4.40	4.54
Pulmonary ventilation of first recovery period† (per cent of resting)	19	19	14	32	33	24	19	19	18	22	32	35
Ventilation index‡ of first recovery period†	7	7	2	19	20	11	7	7	8	12	20	23
Maximum respiratory rate per minute of recovery												
Maximum increase of res- piratory rate per minute over resting												

\* O<sub>2</sub> consumption within five per cent of resting level.

† First recovery period of five minutes' duration.

‡ Ventilation Index = *Pulmonary ventilation per minute over Vital Capacity*.

§ These figures are too low, due to delay in attaching noseclip.



TABLE IIb  
CIRCULATORY REACTIONS FOLLOWING TWO-COURT BASKETBALL

Subject	V.				VIII				VII				X			
	G	G	G	G	G	G	G	G	F	F	F	F	F	F	F	F
Position																
Game	Prac- tice	Prac- tice	Tourna- ment	Tourna- ment	Prac- tice	Prac- tice	Tourna- ment	Tourna- ment	Prac- tice	Prac- tice	Tourna- ment	Tourna- ment	Prac- tice	Prac- tice	Tourna- ment	Tourna- ment
Time	After- noon	After- noon	Even- ing	Even- ing	After- noon	After- noon	After- noon	After- noon	Even- ing	Even- ing	After- noon	After- noon	Even- ing	Even- ing	After- noon	After- noon
Average distance travel- ed (feet per minute)	115	166	148	148	160	137	180	180	245	260	261	261	198	216	198	198
Duration of active play (percent of total play- ing time)	28	27	16	16	28	35	21	21	31	27	32	32	35	30	45	45
SYSTOLIC PRESSURE (mm. Hg.)																
Maximum pressure	130	170	144	144	160	140	200	200	134	140	200	200	144	130	184	184
Maximum increase*	+23	+62	+29	+29	+52	+38	+96	+96	+17	+32	+86	+86	+46	+24	+76	+76
Increase at 6th minute of recovery	+17	+21	+4	+4	+11	+16	+35	+35	+2	+20	+30	+30	-2	-14	+32	+32
Increase at 60th minute of recovery	+6	+8	+2	+2	+7	+16	+20	+20	-3	+11	+4	+4	-2	-12	0	0
Increase at time of com- plete O <sub>2</sub> recovery	+3	+12	-5	-5	+8	+13	+20	+20	-3	+16	+6	+6	-2	-12	+2	+2
Duration of recovery to ±5 mm. Hg (minutes)	27	60+	2	2	60+	60+	60+	60+	2	60+	42	42	3	2	25	25



tory apparatus was effected was used as the zero point of the recovery period.

Determination of the same physiological functions was made for each subject under basal conditions, also. The basis of selection and the methods of investigation used in the series of studies have been presented in a previous paper.<sup>2</sup> It seems necessary, however, to discuss further one point of particular significance in the adaptation of the general procedure to the present study of a complex activity. Accurate measurement of the energy cost of any activity requires the determination of the excess metabolism of both exercise and recovery periods. Natural participation of the subject in the game would be prevented by the attachment of the metabolism apparatus. Such interference, therefore, obviously precludes the measurement of respiratory metabolism during the game itself.

Excess metabolism of the recovery period is a measure of the degree to which the energy requirement of the exercise period has exceeded the energy intake, and is therefore an indication of the severity of the activity and its demand upon the individual. The ratio of oxygen debt to total excess oxygen is dependent upon two factors, varying directly with the total energy requirement of the activity and inversely with the individual's capacity for oxygen intake.<sup>3</sup> Although the capacity factor varies with the state of "training,"<sup>3,4</sup> the assumption seems warranted that, over a short time, this factor is fairly constant for a single individual or a homogeneous group, provided there are no unusual conditions of training or of strain. The oxygen debt may therefore be regarded as an index of the total energy requirement. It has been suggested by Benedict and Parmenter<sup>5</sup> that the  $O_2$  requirement just after activity may be used to indicate the level of the requirement during the work period immediately preceding.

It should be recognized, however, that the center of play in the game shifts; the degree of a player's activity and energy requirement is fluctuating rather than constant. Since the activity is not continuous, there is a progressive balancing of the energy account—the cycle of incurring an oxygen debt and its subsequent payment probably recurs many times in the course of a game. The excess oxygen consumption measured during the recovery period immediately following the game, therefore, is an index of the severity of that part of the game immediately preceding the cessation of play. The prolonged heightened level of post-exercise metabolism, related to the slow component of the recovery process,<sup>3</sup> however, probably does reflect the increased energy demands proportional to the duration and intensity of the entire game period. In accordance with this argument it is assumed that the total excess metabolism of the recovery period represents the relative although not the absolute energy cost of the game to the individual

and therefore, that the use of this value in comparative studies of the metabolic cost of different activities to various individuals is justified.

### RESULTS AND DISCUSSION

The reactions to the game, observed during a recovery period of approximately 60 minutes duration, are presented in Tables IIa and IIb. Graphs of a typical recovery period are shown in Figures Ia, and Ib. Determination of the reactions of these subjects under basal conditions are included in a previous paper, the same numbers referring to the same individuals as in the present study.<sup>2</sup>

The total oxygen debt, expressed in liters per kilogram of body weight, varies from .032 to .061. For one forward, subject X, the values are consistently high; for the other forward, subject VII, the values are lower but of similar magnitude in each of three experimental periods. For each guard, there are two low values and one of greater magnitude. The values are, in general, higher for preliminary practice periods than for tournament games. This may indicate improvement in physical condition, technical skill, or judgment in the use of energy on the part of the players during the season. It is possible also that the play tended to be more nearly continuous in the practice periods than in the tournament games. Oxygen debt values are more variable but of somewhat similar magnitude to those incurred by other subjects following severe activity of short duration in which it was believed the subjects were approaching their maximum effort.<sup>2</sup> The maximum oxygen debt tolerated has not yet been determined for these subjects.

The return of the rate of oxygen consumption to within 5 per cent of the pre-exercise level required from 30 to over 60 minutes. There is apparently a trend toward a longer recovery period following basketball than following continuous vigorous work of shorter duration in spite of the fact that the total oxygen debts, although fairly comparable, are smaller following the game.<sup>2</sup> This probably indicates a more pronounced heightening of general metabolism in the case of the game, the slow component of the recovery process being relatively larger.<sup>3</sup>

The ratios between the percentage increases in oxygen consumption and in total pulmonary ventilation, as well as the values of the ventilation index, indicate a greater relative oxygen utilization and less respiratory distress following the game than following vigorous stair stepping. However, neither a quantitative statement of this trend nor definite significance is justified at the present time since the number of cases is small and there are great individual variations in reaction.

The rise in systolic pressure, measured within one minute after cessation of the game, ranged from 17 to 96 mm.Hg, the duration of the recovery period being from 2 to over 60 minutes. A lower value of

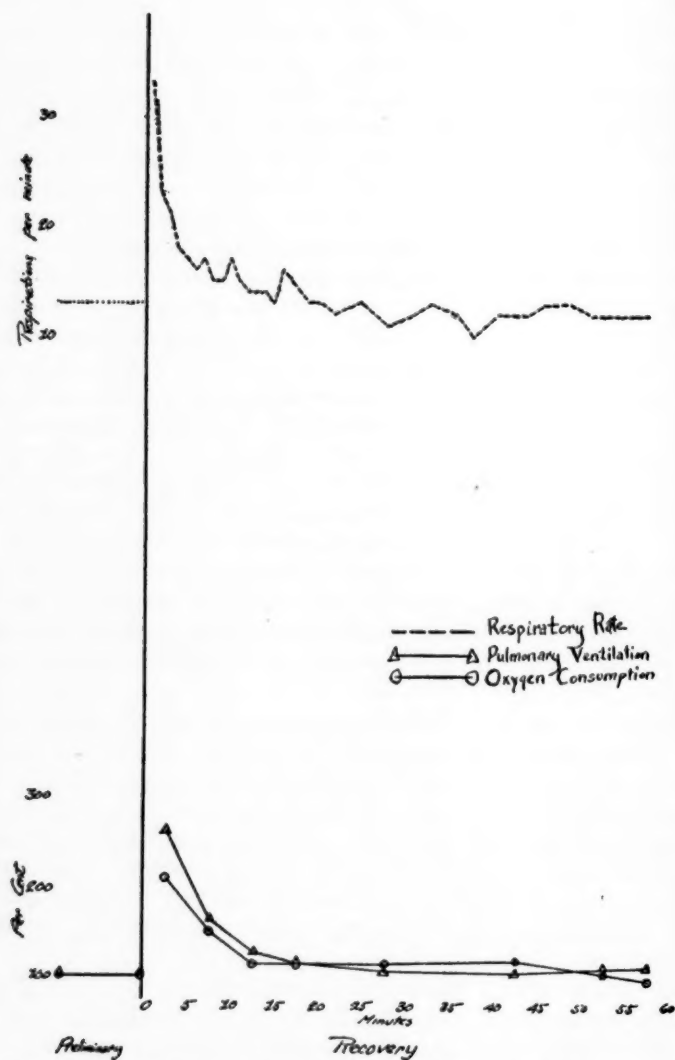


Figure 1a. Respiratory reactions following participation in two-court basketball—Subject VIII.



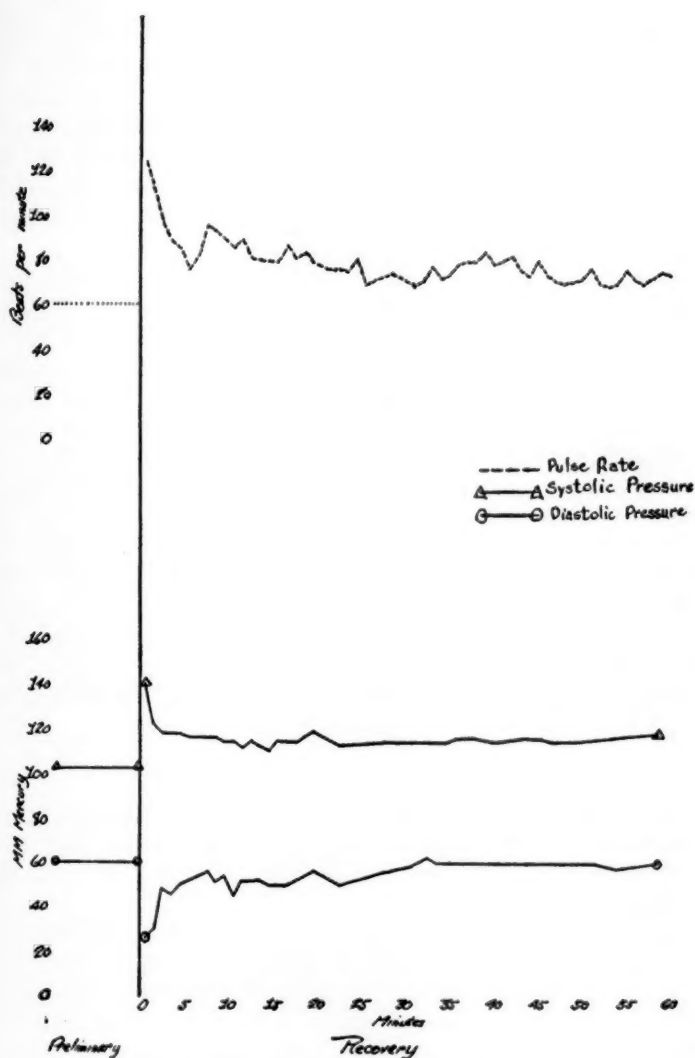


Figure 1b. Circulatory reactions following participation in two-court basketball—Subject VIII.

diastolic pressure immediately after activity was observed in almost every case, the magnitude of the drop, however, being quite variable. Interpretation of these findings must be postponed until further study.

The increase in pulse rate, determined in the first minute of recovery, ranged from 40 to 97 beats per minute over the pre-exercise level. The duration of the recovery period ranged from 25 to over 60 minutes, in 8 out of 12 cases the pulse rate being high at the end of one hour. In almost every case the duration of oxygen recovery was shorter than that of pulse rate recovery. This is in accord with the findings of Lythgoe and Pereira.<sup>6</sup>

Changes in weight were determined in some cases. Each subject weighed herself immediately after a shower and thorough drying both before the game and after the recovery period of one hour following the game. There was no ingestion of liquid nor excretion by kidneys in the interval. A loss of weight, 0.5 to 1.5 pounds, was observed in most cases, although in two instances a gain of one pound was recorded.

It is evident from an inspection of the data in Tables IIa and IIb, that there is no quantitative relationship between the physiological reaction of the player and external work done as indicated by average distances traveled and duration of active play. Many suggestions may be offered in explanation—variations in the physical condition of the subjects, and variations in continuity of play and in the time relationship of maximum effort in the game to the beginning of the recovery period may be offered as probable sources of the lack of correlation. Further studies of these variations and their effects should be made before justifiable interpretations can be made.

#### SUMMARY

Observations were made upon 4 college women during a recovery period of 60 minutes following participation in practice and tournament games of two-court basketball. All had had extensive experience in basketball.

Total oxygen debts varied from .032 to .061 liters per kilogram of body weight; return of the rate of oxygen consumption to the pre-exercise level required from 30 to over 60 minutes. The maximum increase in respiratory rate varied from 2 to 23 per minute above the resting level.

Maximum systolic pressures, measured within one minute after cessation of play, ranged from 130 to 200, an increase of 17 to 96 mm.Hg over the resting level; the duration of the recovery period varied from 2 to over 60 minutes. A decrease in diastolic pressure from the pre-exercise level was observed during the first minute of recovery in the majority of cases, the extent of the fall and duration of the recovery period being variable.

The pulse rate increase varied from 40 to 97 beats per minute over

the resting level. The minimum duration of the recovery period was 25 minutes; in 9 out of 12 cases, the pulse rate at the end of 60 minutes was 7 to 35 beats above the resting level.

*Acknowledgment.*—It is a pleasure to acknowledge the interest and cooperation of the W.A.A. basketball players and managers. Sincere thanks are extended to those students who served as subjects; and to Miss Anna Espenschade, Assistant Supervisor of Physical Education for Women, and to Miss Nancy Miner, student, University of California, for assistance in the study.

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# A Behavior Frequency Rating Scale for the Measurement of Character and Personality in Physical Education Classroom Situations

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## INTRODUCTION

PHYSICAL educators for the last decade or more, have assumed that engaging in physical-activity situations enabled the participants to develop their character and moral traits, as well as enhancing their skill and ability. Hetherington,<sup>1</sup> for example, cites that the individual engaging in physical-training activities is presented with moral situations, such as self-testing stunts, which develop aggressiveness and courage; taking turns in various games, which exhibit an expression of justice or courtesy and obeying rules of the game, which curb unfair tactics, and exercise honesty and fairness in social competition. Manner traits, which no doubt are attributes of character, when guided by efficient leadership, can be built into excellent habits. The expression of the fighting tendencies is an essential element in all contests and to exercise this most appropriately requires self-discipline without loss of self-control. The expression of egoism is noticeable in physical-training activities and shows itself where the individual "grandstands" or derives exaltation from showing off before others. Eligibility is another factor influencing either a good, bad, or indifferent moral situation. Spectators create moral issues when their presence is noticed by contestants, who then attempt to organize their activities for the sole pleasure of the sightseer and the latter in turn (should the group appear skilful enough and the activity interesting) resort to demanding that it shall be organized solely for their enjoyment. Specializing is an instance in which the lack of a broad range of activities stimulates the student to dominate one particular field, in order to fulfill thwarted ambitions he has tried in vain to find elsewhere, hence cultivating an unbalanced line of interest for later maturity. Whether praiseworthy character traits are always developed by athletic competition has been doubted.

The individual engaging in big-muscle activities undergoes a conditioning process, or one might say, is subjected to certain specific situa-

<sup>1</sup> C. W. Hetherington, *School Program in Physical Education*, Part 3, Section 2, Yonkers-on-Hudson: World Book Co., 1926.

tions that are planned by the director in charge. Each set of situations has definite goals, hence the carrying out of this "objective phase" is useful only in so far as there is evidence of progress. This gradation may possibly be measured objectively. This study has been carefully prepared in order to suggest a revised measuring scale, by which such improvement may be objectively ascertained.

#### REVIEW OF LITERATURE

In making this study, the writer will attempt to reflect some noteworthy contributions that aided the carrying out of this research. Dewey<sup>2</sup> suggests that "character is the interpenetration of habits." "Character can be read through the medium of individual acts." Hence, a variety of actions in response to some situation would exemplify some of the individual traits composing character. Rugg<sup>3</sup> describes various methods used in personnel work. His ideas suggest much doubt as to the value of rating character, although he does believe that through comparing and contrasting different research methods, value will eventually come. He gives information concerning reliability, based on the number of judges; he advises at least three, and if possible nine, beyond which reliability does not warrant further extension. Symonds<sup>4</sup> concludes that rating and ranking are equally reliable. He recommends rating on a line scale. His conclusions relative to preference of raters for the rating scale were sustained by the raters. There is a discussion of the "halo" effect, which was noticeable in this study. Charters<sup>5</sup> imparts knowledge on the selection of trait actions indicative of developing personality. He defines various terms, and suggests that character can be developed through environmental influences. Yepsen<sup>6</sup> seems to follow the general trend of his predecessors concerning character training and concludes by presenting a score card made up of about seventy trait actions, listed under their proper trait patterns. However, he suggests no method of scoring. McDonough<sup>7</sup> gives a critical summary of psychological and psychiatric literature dealing with character and personality traits. She also prescribes a method of procedure and arrangement of trait actions in a rating scale for elaborating character and personality traits.

<sup>2</sup> John Dewey, *Human Nature and Conduct*, p. 38, New York: Henry Holt and Co., 1922.

<sup>3</sup> H. O. Rugg, "Is the Rating of Human Character Practicable?" *J. Educ. Psychol.*, XII: (1921), 425-38; XIII: (1922), 30-42, 81-93.

<sup>4</sup> P. M. Symonds, "Notes on Rating—Rating vs. Ranking," *J. Applied Psychol.*, IX: (1923), 188-95.

<sup>5</sup> W. W. Charters, *The Teaching of Ideals*, New York: Macmillan Co., 1928.

<sup>6</sup> L. N. Yepsen, "A Score Card of Personal Behaviour," *J. Applied Psychol.*, XII (1928), 140-47.

<sup>7</sup> Sister M. Rosa McDonough, "The Empirical Study of Character," *Studies in Psychology and Psychiatry*, II: 3 and 4 (May, 1929).



McCloy<sup>8</sup> suggests the psychological and educational principles supporting the problems of character building. A scheme for rating character is introduced. May and Hartshorne<sup>9</sup> discuss four procedures that may be employed in the rating of character. They suggest that perhaps it would be better to use the test to validate the rating, rather than the rating to validate the test. They show also that the ratings when freed from the "halo" by using judgments of teachers and students, are no more reliable than the test—in fact, they are much less reliable. Sandiford<sup>10</sup> shows the part played by physical activity in education. He concludes that changes in character, "the most precious of all changes," resist every attempt at measurement. He further states that measurements of these elusive traits are continually being made by teachers, but they are unreliable and unverifiable measurements. Measures of this type, which we call personal opinions, are always lacking in precision. O'Neel<sup>11</sup> bases his study upon McCloy's ideas. In this study he used 35 subjects (boys) actively engaged in physical education and eight raters or judges who had had their required amount of physical training and were continuing because of an interest incentive. He had 8 ratings made on each pupil, which gave a total of 280 ratings. He found a low reliability in the self-correlations between the two groups of judges for each trait action.

#### DEFINITION OF TERMS

A clear understanding of terms such as character, trait actions, and personality is necessary. Charters<sup>12</sup> speaks of character as that "which applies to the most fundamental of the traits of personality." "Personality is the integrated total of the traits possessed by an individual." And "a trait is a type reaction." Accordingly, leadership, cooperation, self-control, and sociability are some examples of traits. A trait is, in other words, the sum and organization of a group of trait actions. Leadership is a complex personality trait composed of many trait actions. Swearing while engaging in a volleyball game would be an example of a trait action and could be considered under the trait of self-control; assuming responsibility at a critical moment during a football game would be another example of a trait action which could perhaps be listed under the trait of leadership; willingness to participate in the

<sup>8</sup> C. H. McCloy, "Character Building Through Physical Education," *RESEARCH QUARTERLY*, I: 3 (October, 1930), 41-61.

<sup>9</sup> M. M. May and H. Hartshorne, "Recent Improvements in Devices for Rating Character," *J. Soc. Psychol.*, I: (1930), 66-75.

<sup>10</sup> Peter Sandiford, *Educational Psychology*, pp. 183-301, New York; Longmans, Green and Co.

<sup>11</sup> F. W. O'Neel, A Frequency Behavior Rating Scale for the Measurement of Character and Personality in High School Physical Education Classes for Boys, Thesis, State University of Iowa, August 1931. See abstract in this issue, page 67.

<sup>12</sup> W. W. Charters, *Op. cit.*, pp. 33-41.

interests of others would be one of the trait actions classifiable under the trait, cooperation.

"Character," to McCloy<sup>13</sup> "is sort of a linking up of cause and effect" or the learning basis of conduct. To him the trait reaction is the cause of conduct, and the result of this reaction is one of the elements composing a trait. It is this idea that we follow in this study.

#### STATEMENT OF PURPOSE

The purpose of this study is twofold; first, to make a critical analysis of the McCloy frequency behavior rating scale; and secondly, to modify the original trait actions, and incidentally to propose a new rating scale.

#### SOURCE OF DATA

The data for this study were collected from a typical physical education class of Edgewood High School students, Edgewood, Iowa. The total enrollment of the high school for the year 1930-'31 was 98 and the grade enrollment was 112. Fifty individuals were selected for the study. Twenty-six of this number were girls ranging in age from 14 to 18 and in their junior and senior years of high school. Twenty-four were boys, with ages ranging between 14 and 19, who were sophomores, juniors, and seniors. There were 12 raters or judges. Eight of these were students, 4 boys and 4 girls. Four of this number made 24 ratings each, while the remaining 4 made 26 ratings apiece, a total of 200 ratings. Each student had under his observation from 1 to 43 pupils. The student rater did not rate himself. The other 4 raters were 3 teachers and 1 superintendent. Each made 50 ratings, a total of 200. The combined total of ratings numbered 400.

#### METHOD OF PROCEDURE

The sole objective of this study was to organize the material so that its value could be more fully interpreted. To accomplish this objective, it was necessary to find the reliability of the judgments of the raters; the reliability of the scores between the teacher and student raters; the consistency of the teacher and student judges in regard to the scores given; and the validity of each of the trait actions as compared with the remainder of the traits in its category.

The study proceeded as follows: (1) delimiting a suitable list of trait actions for the rating scale; (2) selecting a final set of trait actions; and (3) arranging the final set of trait actions upon a systematic basis, ready for use in a rating scale.

The traits and their accompanying trait actions used in this study were suggested by C. H. McCloy<sup>14</sup> who first skimmed the literature and chose empirically trait actions which were applicable to physical educa-

<sup>13</sup> C. H. McCloy, *Op. cit.*, pp. 41-61.

<sup>14</sup> C. H. McCloy, Personal communication.

tion activities in classroom situations. The result of this was the construction of a questionnaire listing nine traits and eighty-five trait actions. These questionnaires were sent to Wallace School in Des Moines, Iowa, where sixteen teachers evaluated them. When the data were finally returned, only those trait actions receiving the highest ratings were selected. The final evaluation of the trait actions by C. H. McCloy resulted in the renovation of the following rating scale which was used as a basis in this study:

School..... Experimental.....

Control.....

#### Behavior Rating Scale

Name of Person Rated.....Grade.....Age.....

Name of Rater.....Date.....

	Frequency of Observation							
Rater's Assurance	Rater's Assurance	No Opportunity to Observe	Never	Seldom	Fairly Often	Frequently	Extremely Often	Score
0—a mere guess								
1—slight inclination								
2—fair assurance								
3—positive assurance								
<i>Leadership</i>								
1. He is popular with classmates....			1	2	3	4	5	
2. He seeks responsibility in the classroom .....			1	2	3	4	5	
3. He shows intellectual leadership in the classroom .....			1	2	3	4	5	
4. He lets others shove him around or take his place.....			5	4	3	2	1	
<i>Positive Active Qualities</i>								
5. He finds useful occupations when assigned tasks are finished.....			1	2	3	4	5	
6. He shows initiative in assuming responsibility in unfamiliar situations .....			1	2	3	4	5	
7. He exhibits aggressiveness in his relationships with others.....			1	2	3	4	5	
8. He is alert to new opportunities..			1	2	3	4	5	
9. He quits on tasks requiring perseverance .....			5	4	3	2	1	
<i>Positive Mental Qualities</i>								
10. He shows keenness of mind.....			1	2	3	4	5	
11. He recovers his poise quickly after a failure.....			1	2	3	4	5	
12. He volunteers ideas.....			1	2	3	4	5	
13. He has the courage of his convictions; he does not conform when he disbelieves.....			1	2	3	4	5	
14. He teases and pesters others....			5	4	3	2	1	

Rater's Assurance	Frequency of Observation					Score
	No Opportunity to Observe	Never	Seldom	Fairly Often	Frequently	Extremely Often
0—a mere guess						
1—slight inclination						
2—fair assurance						
3—positive assurance						
<i>Self-Control</i>						
15. He controls himself when provoked .....		1	2	3	4	5
16. He is easily irritated.....		5	4	3	2	1
17. He gets angry in arguments, discussions or debates.....		5	4	3	2	1
18. He takes a justified criticism by teacher or classmate without showing anger or pouting.....		1	2	3	4	5
<i>Cooperation</i>						
19. He is willing to adjust to the interests of the group.....		1	2	3	4	5
20. He is loyal to his group.....		1	2	3	4	5
21. He discharges his group responsibilities well.....		1	2	3	4	5
22. He is cooperative in his attitude towards the teacher.....		1	2	3	4	5
23. He is willing to play without trying to run everything himself....		1	2	3	4	5
24. He grumbles over decisions of classmates or teachers.....		5	4	3	2	1
<i>Social Action Standards</i>						
25. He is courteous.....		1	2	3	4	5
26. He respects the rights of others..		1	2	3	4	5
27. He makes loud-mouthed criticisms and comments.....		5	4	3	2	1
28. He shows off.....		5	4	3	2	1
29. He is willing to admit ignorance or failure.....		1	2	3	4	5
<i>Ethical Social Qualities</i>						
30. He tries to "get by" with bluffing		5	4	3	2	1
31. He respects the rules.....		1	2	3	4	5
32. He imposes on good nature.....		5	4	3	2	1
33. He is truthful.....		1	2	3	4	5
34. He cheats.....		5	4	3	2	1
<i>Qualities of Efficiency</i>						
35. He is punctual at meetings, practice, classes.....		1	2	3	4	5
36. He has good study habits.....		1	2	3	4	5
37. He is dependable and trustworthy		1	2	3	4	5
38. He finishes tasks he starts.....		1	2	3	4	5
39. He plans things well.....		1	2	3	4	5
40. He seems satisfied to "get by" with tasks assigned.....		5	4	3	2	1

	Frequency of Observation						
0—a mere guess 1—slight inclination 2—fair assurance 3—positive assurance	Rater's Assurance	No Opportunity to Observe	Never	Seldom	Fairly Often	Frequently Extremely Often	Score
<i>Sociability</i>							
41. He is friendly.....			1	2	3	4	5
42. He shows timidity.....			5	4	3	2	1
43. He is liked by others.....			1	2	3	4	5
44. He makes a friendly approach to others in the group.....			1	2	3	4	5
45. He acts as though he felt abused or "picked on".....			5	4	3	2	1

## SELECTION OF FINAL TRAIT ACTIONS

There are three major criteria used in the selection of the final trait actions. These are: first, the median of the average deviations of the total scores of both the teacher and student raters; second, the reliability of the teacher and student scores per trait action; and lastly, the intercorrelations of one trait with the remainder of its category. The trait actions finally selected are summarized and arranged in the rank order of significance:

## RANK ORDER OF TRAIT ACTIONS

	Correlations of Teacher and Student Scores	Inter- Correlations of Each Cate- gory of Trait Actions	Median Deviation of Teacher and Student Scores
<b>I. Leadership: (Trait)</b>			
Trait actions:			
1. He is popular with his class- mates .....	.8139	.8796	3.91
2. He seeks responsibility in the classroom .....	.7529	.9417	3.95
3. He shows intellectual leadership in the classroom.....	.7240	.9334	3.76
<b>II. Positive Active Qualities</b>			
1. He quits on tasks requiring per- severance .....	.6992	.9257	4.19
2. He exhibits aggressiveness in his relationship with others.....	.7758	.8747	4.60
3. He shows initiative in assuming responsibility in unfamiliar sit- uations .....	.6392	.9555	4.60
4. He is alert to new opportunities	.6206	.9721	4.60



	Correlations of Teacher and Student Scores	Inter- Correlations of Each Cate- gory of Trait Actions	Median Deviation of Teacher and Student Scores
<b>III. Positive Mental Qualities</b>			
1. He shows keenness of mind...	.7368	.9215	4.00
2. He volunteers ideas.....	.6848	.9486	4.58
<b>IV. Self-Control</b>			
1. He grumbles over decisions of classmates or teachers.....	.6192	.9267	4.83
2. He takes a justified criticism by teacher or classmate without showing anger or pouting.....	.5486	.8463	4.68
<b>V. Cooperation</b>			
1. He is loyal to his group.....	.5653	.9561	4.07
2. He discharges his group re- sponsibilities well.....	.7472	.8481	4.54
3. He is cooperative in his atti- tude toward his teacher.....	.7189	.9669	4.64
<b>VI. Social Action Standards</b>			
1. He makes loud-mouthed criti- cisms and comments.....	.6784	.9619	3.45
2. He respects the rights of others .....	.8226	.9525	3.96
<b>VII. Ethical Social Qualities</b>			
1. He cheats .....	.7336	.9388	3.40
2. He is truthful.....	.7335	.9513	3.50
<b>VIII. Qualities of Efficiency</b>			
1. He seems satisfied to "get by" with tasks assigned.....	.7672	.9652	4.00
2. He is dependable.....	.7587	.9067	3.97
3. He has good study habits.....	.7769	.9593	3.92
<b>IX. Sociability</b>			
1. He is liked by others.....	.7691	.9575	3.92
2. He makes a friendly approach to others in the group.....	.7355	.9566	3.02
3. He is friendly.....	.6605	.8944	3.83

We propose, therefore, a revised trait action rating scale, consisting of twenty-four trait actions instead of the forty-five. The modified rating scale ready for use, is as follows:

School..... Experimental.....  
Control.....  
Name of Person Rated..... Grade..... Age.....  
Name of Rater..... Date.....

	Frequency of Observation						
Personal Information:	No Opportunity to Observe	Never	Seldom	Fairly Often	Frequently	Extremely Often	Score
<b>Leadership</b>							
1. He is popular with classmates.....		1	2	3	4	5	
2. He seeks responsibility in the classroom		1	2	3	4	5	
3. He shows intellectual leadership in the classroom .....		1	2	3	4	5	
<b>Positive Active Qualities</b>							
4. He quits on tasks requiring perseverance		5	4	3	2	1	
5. He exhibits aggressiveness in his rela- tionship with others.....		1	2	3	4	5	
6. He shows initiative in assuming respon- sibility in unfamiliar situations.....		1	2	3	4	5	
7. He is alert to new opportunities.....		1	2	3	4	5	
<b>Positive Mental Qualities</b>							
8. He shows keenness of mind.....		1	2	3	4	5	
9. He volunteers ideas.....		1	2	3	4	5	
<b>Self-Control</b>							
10. He grumbles over decisions of class- mates .....		5	4	3	2	1	
11. He takes a justified criticism by teacher or classmate without showing anger or pouting .....		1	2	3	4	5	
<b>Cooperation</b>							
12. He is loyal to his group.....		1	2	3	4	5	
13. He discharges his group responsibilities well .....		1	2	3	4	5	
14. He is cooperative in his attitude toward the teacher .....		1	2	3	4	5	
<b>Social Action Standards</b>							
15. He makes loud-mouthed criticisms and comments .....		5	4	3	2	1	
16. He respects the rights of others.....		1	2	3	4	5	
<b>Ethical Social Qualities</b>							
17. He cheats .....		5	4	3	2	1	
18. He is truthful.....		1	2	3	4	5	
<b>Qualities of Efficiency</b>							
19. He seems satisfied to "get by" with tasks assigned.....		5	4	3	2	1	
20. He is dependable and trustworthy.....		1	2	3	4	5	
21. He has good study habits.....		1	2	3	4	5	
<b>Sociability</b>							
22. He is liked by others.....		1	2	3	4	5	
23. He makes a friendly approach to others in the group.....		1	2	3	4	5	
24. He is friendly.....		1	2	3	4	5	

COMPARISON OF THE ORIGINAL RATING SCALE  
WITH THE NEW SCALE

The question is, "does the behavior frequency rating scale show any improvement over the original scale?"

Comparison of the Original with the New Scale

	No. of Trait Actions	Reliability <sup>15</sup>	Validity <sup>16</sup>	M.A.D. <sup>17</sup>
Original Scale.....	45	.639	.820	4.28
New Scale.....	24	.711	.930	4.12
Difference .....	21	.072	.110	.16

<sup>15</sup> Reliability means the correlations between the teacher and student scores.

<sup>16</sup> Validity as found by the intercorrelations of one trait action with the rest of the items in its category.

<sup>17</sup> M. A. D. equals the median of the total average deviation (that is, the sum of the teachers' and students' ratings).

This proposed new rating scale has been simplified. It contains only twenty-four trait actions. It seems obvious that this scale will be a time-saver. It is simple enough to be free from making the raters fatigued. Administering and scoring are relatively simple. Incidentally, it is money-saving.

Reliability and validity show the improvement of .072 and .110 respectively over the old scale. All this shows that the revised rating scale measures more accurately what the test purports to measure. The median average deviation is less for the new scale than the old one, indicating greater consistency than in the original rating scale.

## CONCLUSIONS

The following conclusions may be drawn from this study:

1. Contrary to the empirically assumed fact that the assurance is an index of the accuracy of the ratings, it is at best only an index of the range of personal contact and acquaintance of the judge with the student rater. Therefore, raters' assurance columns may be eliminated.
2. As shown by the smaller median average deviation for both teacher and student raters, the modified scale is more consistent than the original rating scale.
3. As shown by the correlation of the scores of teacher versus student rater for each trait action, there is some indication that the revised scale approaches greater accuracy than the original rating scale.
4. As shown by the high intercorrelations between the various sets of trait actions, the revised frequency behavior rating scale is measuring to a higher degree that which it claims to measure than the original scale.

5. The average reliability of the rating scale as found in this study is .711 as determined by the scores of teacher and student rater, while the average validity is .930 as shown by the intercorrelations of each category of trait actions.

6. The proposed revised behavior frequency rating scale for the measurement of character and personality is an improvement over the original scale, in that it has practicable as well as scientific value.

This study is far from being complete. It has suggested more problems than it has solved. There is apparently a need for further research in this field of character and personality study.

NOTE: The writer wishes to acknowledge the assistance of C. H. McCloy, State University of Iowa, in the pursuit of this research study.

# A Behavior Frequency Rating Scale for the Measurement of Character and Personality in High School Physical Education Classes for Boys

By F. W. O'NEEL

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IT IS a general belief among physical educators and athletic coaches that athletics develop character. If this proposition is granted, it must also be borne in mind, that there are two kinds of character. Very often credit is given to athletics for developing a splendid character in an individual who, during his school career, participated in athletics. Other boys going to the same school and participating on the same teams, either did not develop any better character or, due to an over-anxious coach desiring to win every game on his schedule at the expense of proper guidance in character development, actually suffered harmful effects. While it may be true that athletic participation under a capable coach has been the means of bringing many boys into possession of splendid characters, it does not follow that every boy, or even a small majority of boys, develop good characters by virtue of such participation. Parents and teachers very often question the kind of character developed.

The environment of physical education is perhaps the most fertile field for character development that can be found in the realm of education, because it has at the very base of its existence, the urge to play. This is one of the most powerful urges to which the race is subject. It may be guided into situations, calling forth reactions which are valuable for character training. Thus, games having rules bring pupils into contact with the factor of law observance in their play life, which later may be enlarged into other realms.

It, therefore, becomes the duty of every physical educator, not only to plan for the development of the organic vigor and health knowledge of his pupils, but also, to cause them to form good habits of conduct by guiding their responses to situations into channels acceptable to the society in which they must take their places as good and useful citizens.

Any well-organized plan, designed to accomplish the results suggested above, must first of all have in it a definite list of character objectives towards which the pupils are to be directed. In order to direct the pupils there must be a well-organized plan of procedure or method. Before any teacher may know how well such a method is working there must be a way of measuring progress of pupils. So far, this measuring



has been the subjective opinions of the teachers in respect to character development. It is clear that some more objective method is needed, and it is to the task of developing such a method that this thesis is devoted.

It is hoped that if the attempt is not successful in evolving a dependable measuring stick for character development, it will at least crystallize some of the thought on the matter of character training by suggesting some of the objectives involved; give some impetus to the study of the problem by others; and suggest that the pupils of the classes be made a part of the program of their own development.

#### SOURCE OF DATA

A regular physical education class of forty-three boys in the Lincoln High School of Tacoma, Washington, was selected for this study. Eight of the number, because they were more mature and more interested in physical education, were selected as group leaders. The remaining thirty-five boys were in their first year at high school. The age range was between fourteen and seventeen years.

#### PURPOSE OF STUDY

The main purpose of this study is, as has already been stated, to develop a rating scale for the measurement of character in high school physical education classes for boys. This attempt will involve five main points, namely:

1. A preliminary study of the activity program to be used in class to determine just what activities are suitable in order to insure the greatest interest of the boys in the problem.
2. The selection and organization of a preliminary set of trait actions, from which a workable set may be obtained. This will deal first with the method of selection, and second with the form on which they will be placed for use in class.
3. The method used in rating the subjects.
4. The treatment of the data collected, which will involve two separate procedures, one with the assurance indicator marks, and the other with the evaluated marks of the raters. These two methods of procedure will establish two bases for the selection of the final list of trait actions.
5. The combining of the two bases mentioned in 4, and the selection of the final list.

#### PRELIMINARY STUDY AND ARRANGEMENTS

During the latter part of the semester preceding that in which this study was made, the boys embracing the entire total enrollment in physical education classes were asked to hand in to the director three names of games or activities which they enjoyed most, listed in the order of their preference. These lists were tabulated, and sixty-three activities were obtained. Twenty of these were selected on the basis of frequency

of occurrence in the first choice list, and these were arranged on the following form:<sup>3 \*</sup>

FORM 1

Activities	Enjoy doing very much	Like a little but not much	Don't like it at all	Would like specific coaching
Apparatus				
Baseball				
Basketball				
Bounce-it				
Boxing				
Calisthenics, etc.				

DIRECTIONS: Place an (x) after each of the activities listed above in the column that best describes your own personal feelings about it. When you have done that, mark your first, second and third choices with a 1, 2, 3, inside a small circle on the left margin of the paper.

Each of the columns and the choices were tabulated in separate frequency distributions. These were compared and found to run quite similar. Six of the activities were selected for inclusion in the activity program for the following semester in which the character study was to be made. These six activities were swimming, basketball, baseball, wrestling, track, and tennis. Football was second choice, but due to lack of equipment and the uncertainty of early spring weather, it was not included.

#### ORGANIZATION AND PROCEDURE IN CLASS

At the beginning of the second semester the boys in the selected class were separated into five groups, and one or more leaders were placed in charge of each group under the supervision of the director. The class was then called together, shown the list of six activities, and each group was asked to select an activity for the next three weeks, or since there were two periods per week, the next six meetings. It was explained that this procedure would occur every three weeks for fifteen of the eighteen weeks of the semester, or until all had had an opportunity of working in five activities. Any pupil might change from one activity to another when he wished, provided he came back later, and spent his required three weeks therein. Regular checking up was done by the director, and no boy was allowed to overstay his three weeks in any one activity. In some cases boys, who were interested in one or two activities only at the beginning of the semester, found that other activities were just as interesting when they really got into them.

#### SELECTION OF A PRELIMINARY SET OF TRAIT ACTIONS

In selecting the trait actions to be used, care had to be taken to select only those that would apply to physical education situations. Since the

\* Numbers refer to bibliography at end of article.

list proposed by McCloy<sup>3</sup> in his study were primarily designed for this purpose, it was used as a basic list, and others were added. The list proposed by McDonough<sup>4</sup> was very complete, and thirteen of them were added to the basic list, making a total of fifty. The other trait actions that were found were either not applicable to physical education situations or were duplicates of those already selected.

Instead of having one set of trait actions for each individual in the class, one sheet was used for each trait action, and all of the boys were scored on it by each of the eight leaders. This method made it possible for the leaders to compare the boys with each other, or in other words, to rank them.

Form 2 was adopted, and copies were mimeographed with the names of the thirty-five boys listed under class roll. Eight sets (one for each leader) were prepared. Each leader was given a set of rating sheets. These were gone over and explained in detail. The method of checking their ratings under the five-point scale was talked over, and the meaning of the raters' assurance marks was made clear. Each leader was to rate every boy in class as rapidly and accurately as he could, and to be finished by the end of the fifteenth week. With careful checking up by the director, all sets were completed and turned in on time.

#### FORM 2

(Trait action)

Raters'

assurance

indicators.

0—A mere guess.

1—Slight inclination.

2—Fair assurance.

3—Positive assurance.

(Class roll)	Rater's Assurance	(Frequency of observation)				Extremely often	Score
		Never	Seldom	Fairly often	Frequently		
1							
2							
3							
4, etc.							

#### TREATMENT OF DATA

1. *Raters' Assurance Indicators.*—In selecting the final list of trait actions for the proposed rating scale, three factors should be considered: (1) the ease with which the trait action can be understood by the raters; (2) the ease with which it can be recognized by the raters; (3) the reliability of the marks.

The numbers of assurance indicator marks, assigned by the 8 raters to the 35 boys on each of the 50 trait actions, were tabulated. The ratios of 0's, 1's, 2's, and 3's to 1,000 were then obtained by dividing

the numbers involved by the total number of marks assigned by all the raters to all the boys.

TABLE I  
SHOWING THE FIRST TEN TRAIT ACTIONS WITH THEIR CORRESPONDING RATIOS  
OBTAINED ACCORDING TO THE METHOD DESCRIBED

Trait Actions	(Marks per 1,000)			
	0	1	2	3
1	146	289	353	211
2	103	329	393	175
3	171	318	336	175
4	168	250	368	214
5	225	243	365	168
6	200	286	361	154
7	221	264	414	100
8	118	243	436	204
9	115	217	433	196
10	193	296	343	168

It was assumed that the trait actions characterized by high ratios in the 2 or 3 columns, indicating "fair" or "positive" assurance, were more easily recognized and understood by the raters than those having high ratios in the 0 or 1 columns. Proceeding on this assumption the ratios from Table I were arranged in descending order from top to bottom and rank numbers were assigned.<sup>2</sup> Table II was then constructed, assigning to each trait action the respective rankings under each of the four assurance marks.

TABLE II  
SHOWING THE FIRST TEN TRAIT ACTIONS WITH THEIR CORRESPONDING RANKINGS

Trait Action	(Trait action ranking)			
	0	1	2	3
1	43.5	31	42	2
2	50	10.5	21	5.5
3	27	16	48	5.5
4	31	42	33.5	1
5	4.5	44.5	35	8
6	11	34	38	11
7	7	40	12.5	50
8	48	44.5	3	3
9	39	50	5	4
10	19.5	25	45	8

In order to combine the four rank columns of Table II, charts were constructed on graph paper. The rank numbers of the 0 assurance marks were arranged on the y-axis in descending order from top to bottom, and the numbers of the 2 marks on the x-axis in ascending order from left to right. Lines were drawn across the chart from the mid-points of the respective columns, and the cells were numbered consecutively in either direction. The top half of the 0 column and the left half of the 2 column were labeled plus values, and the other





were found and arranged together with the trait action numbers in descending order from plus 92 to minus 58. This rather continuous series was used for reference in selecting the final list of trait actions, assuming that the higher toward the top the action was found, the more desirable it would be from the standpoint of the raters' ability to recognize it and understand its application to the class members being rated.

In the preceding method, the relationship of the assurance marks to the trait actions has been stressed. If the relationship of assurance to individuals is studied, an interesting bit of information is discovered. The boys, who, for one reason or another, are different from the average of the class, are marked with a higher degree of assurance than the others. This fact was discovered when the assurance marks were tabulated relative to the boys, and ranked according to the method already described under trait actions. The boys ranking highest were studied and found to possess certain characteristics, such as outstanding athletic ability, strength, unusual size for age, unusual color of hair, and others. The boys ranked among the first ten under the three assurance were observed to possess these characteristics most markedly. Those ranked under 2 assurance tended to duplicate the 3, while those under the 0 and 1 assurance tended to become less conspicuous. Perhaps the only conclusion that can be drawn from this seemingly irrelevant analysis would be that the better known boys are more easily ranked, and that in order to insure the highest success with any rating scale, some method should be employed to stress thorough acquaintanceship. Whether or not these boys were rated more accurately, is a question that will have to remain unanswered until other more reliable measures have been developed.

2. *Raters' Marks.*—In order to convert the check marks, placed by the raters on form 2 under the heading "frequency of observation," into usable scores, a value was assigned to each of the five divisions. The order in which these values were assigned depended upon the statement of the trait action involved. For example, take the two trait actions, "Achieves leadership in the group" and "Schemes, works underhandedly to get his own way." Clearly, in the first example, "extremely often" would merit the highest value, because we associate worthwhileness with "achievement of leadership." In the second case, "extremely often" would be assigned the least value, because "scheming and working underhandedly" are elements that we do not want in our character organization. These values were assigned, therefore, from one to five if the trait action was positive, and from five to one if it was negative, beginning with the "never" column in either case.

The values thus obtained were tabulated under three heads, namely, boys, trait actions, and judges. The further analysis of these values involved correlation; so in order to secure two comparable groups for this

procedure, the judges were numbered from one to eight. Two groups were made by placing the odd numbered ones in group "A" and the even numbered ones in group "B." The average group rating for each trait per boy was determined, and correlation tables were made by arranging these group ratings under "A" and "B" for each trait and opposite the boys' numbers. This table made it possible to correlate the average ratings of the two groups of judges, for each of the fifty trait actions, and thus establish the reliability of the final selection.

The  $r$ 's were converted into ratios by reference to the tables for finding  $\sqrt{1-r^2}$ , and these were arranged in rank order. This ranking and the ranking according to the composite scores described in the first part of this section were correlated by the Spearman footrule and the rank-differences methods for finding coefficients of correlation.<sup>2</sup> The  $r$ 's were .136 and .124 respectively, which would indicate practically no relationship between them. They were accordingly assumed to indicate separate factors, and a comparison chart was constructed by which they could be combined, in order that both might be given weight in selecting the final list of trait actions for the proposed rating scale.

While it is not justifiable to have any test element with a reliability coefficient of less than .70, we are forced to accept some as low as .372. Trait number 25 is selected over number 22, which has the same reliability coefficient ranking, because it has a higher ranking in the assurance composite score column. The other trait actions were selected according to the same system.

It was hoped that there would be several trait actions of sufficient reliability under each trait, but this is apparently not the case. The low reliability of most of these trait actions makes more than two for each general trait impracticable. In the case of the first general trait, two elements were selected with very low reliability.

Trait actions number 1, 2, and 3 were the only ones listed under Trait I, and so number 3, being the highest in reliability, was placed first. Number 2 was ranked higher than 1 in both the reliability and the composite score columns, and so was selected in spite of its low reliability.

### 3. *List of Trait Actions Selected.*—

#### I. Leadership:

1. Schemes, works underhandedly to get his own way.

$r$ , .413;  $a$ , 32.

2. Advances ideas to which group pays attention.

$r$ , .247;  $a$ , 6.

#### II. Active Qualities:

1. Attempts to dominate others.

$r$ , .674;  $a$ , 4.

2. Gives of his best efforts even when team is losing.

$r$ , .633;  $a$ , 2.

## III. Attitudes:

## 1. He is cheerful.

 $r$ , .580;  $a$ , 45.

## 2. Makes fun of others, who like games that he does not like.

 $r$ , .430;  $a$ , 42.

## IV. Self-Control:

## 1. Makes loud mouthed comments, criticisms, etc.

 $r$ , .670;  $a$ , 41.5.

## 2. Swears freely.

 $r$ , .595;  $a$ , 34.

## V. Cooperation:

## 1. Plays to the gallery.

 $r$ , .720;  $a$ , 14.5.

## 2. "Hogs the ball" or other equipment.

 $r$ , .595;  $a$ , 7.

## VI. Sportsmanship:

## 1. "Razzes," teases, or bullies opponents.

 $r$ , .603;  $a$ , 24.

## 2. Acts like a "good sport" towards opponents.

 $r$ , .445;  $a$ , 8.

## VII. Ethical:

## 1. "Crabs" about officiating.

 $r$ , .505;  $a$ , 21.

## 2. Takes decisions, wins or loses in good spirit.

 $r$ , .455;  $a$ , 20.

## VIII. Efficiency:

## 1. Works conscientiously to perfect his form in sports.

 $r$ , .585;  $a$ , 21.

## 2. Thinks ahead of the play.

 $r$ , .549;  $a$ , 32.

## IX. Sociability:

## 1. Is chosen by others of the group as a preferred companion in some sport.

 $r$ , .546;  $a$ , 12.5.

## 2. Shows timidity, hurt feelings, over-sensitiveness.

 $r$ , .367;  $a$ , 34.

## CONCLUSIONS

1. It was arbitrarily assumed in this study, that the degree of assurance with which the raters marked their subjects indicated the degree of desirability for rating purposes of the trait actions on which they were marked; in that positive assurance would seem to indicate a certain *ease* with which the element in question could be understood, and recognized. The other degrees of assurance would, therefore, indicate corresponding degrees of desirability.

2. There was noticed, however, a marked relationship between the assurance with which the ratings were made and certain individuals, who, because of some outstanding characteristic, differed from the average appearance of the other boys.

3. Practically no relationship existed between the trait actions ranked according to composite scores and according to coefficients of correlation. This was taken to mean that the two ranks stood for entirely different factors.

4. The test elements selected have an extremely low reliability, which is shown by the low coefficients of correlation existing between the two groups of raters. The proposed scale is, therefore, not offered as a reliable measure of character, but rather the entire method of study is offered for what it may be worth to others, who may want to carry on a similar study.

#### FURTHER SUGGESTIONS

1. It would probably lend some degree of reliability to any further attempts along this line to break the general traits up into their elements according to the terminology used by the boys in their actual play.

2. In order to get a criterion with which the results of the student rating scale might be correlated to establish its validity, a similar scale might be worked out and given to the teachers of the various boys for them to administer and return for scoring and correlating.

3. Another important feature of such a rating scale, which has already been proposed by McCloy, is a profile chart upon which the total scores for each individual for each general trait may be placed, in order that his exact needs may be determined and met.

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# Physical Education Knowledge Tests

Developed by the Department of Physical Education for  
Women, University of Minnesota

CATHERINE SNELL, *Chairman*

## PART III. TESTS IN GOLF, RIDING, TENNIS, AND BASEBALL

THE TESTS printed below were compiled by the Department of Physical Education for Women at the University of Minnesota. The description of the procedure employed in setting up the tests, and the tests in hygiene, fundamentals, archery, and hockey were published in the *RESEARCH QUARTERLY* for October, 1935. The tests in volleyball, soccer, and basketball appeared in the March, 1936, issue.

### GOLF

*Directions.*—After each statement there are five words or groups of words in parentheses each preceded by a letter. You are to write in the space indicated on the answer sheet the letter of the *one* word or group of words that makes the truest or best statement. If a wrong letter is given as well as the right one in any given statement, no credit will be given for that statement. If you do not know the correct statement, do *not* guess.

1. Two strokes under perfect score for a hole is called (*a. bogie; b. honour; c. birdie; d. eagle; e. par*).
2. The last stroke played necessary to reach the green is called the (*a. mashie shot; b. niblick shot; c. approach shot; d. quarter swing; e. half swing*).
3. The starting place for the first hole is the (*a. tee; b. elevation of the ball; c. loft; d. teeing ground; e. clubhouse*).
4. The putter is the only club used to play the ball from a lie on the grass that does not have (*a. a steel shaft; b. a wooden head; c. an iron head; d. a lofted face; e. a flat sole*).
5. Turf chopped up during a stroke is called a (*a. dormie; b. chop; c. slice; d. divot; e. hook*).
6. The twist of the body during the swing is called the (*a. draw; b. approach; c. twist; d. pivot; e. spring*).
7. One's score for eighteen holes is determined by the (*a. number of times the ball was missed; b. number of times the ball was hit; c. number of times ball was struck at during the game; d. number of times ball was putted; e. number of drives off the tee*).
8. The position of the player's feet when he is ready to hit ball is called the (*a. address; b. stance; c. grip; d. starting position; e. foot fault*).
9. A ball which curves to the left after it has been hit is called (*a. a birdie; b. an eagle; c. a hooked ball; d. a sliced ball; e. a poor ball*).
10. On the green one should generally use a (*a. mashie; b. putter; c. midiron; d. driver; e. mashie niblick*).
11. A ball that curves to the right after it has been hit is called a (*a. sliced ball; b. hooked ball; c. good ball; d. divot; e. birdie*).
12. One stroke under par for a hole is called (*a. bogie; b. fore; c. eagle; d. birdie; e. hazard*).



13. Striking, a fundamental element in golf, is also used in the following activities: (a. hockey, tennis, swimming; b. tennis, baseball, archery; c. soccer, baseball, swimming; d. hockey, tennis, baseball; e. hockey, archery, baseball).

14. Addressing the ball is a term used to mean (a. placing the ball in position on the tee; b. putting one's self in position to strike the ball; c. placing one's feet in position to hit the ball; d. swinging the club; e. moving toward the ball on the fairway).

15. The three most important golf stances are (a. wide, closed, vertical; b. narrow, open, horizontal; c. horizontal, vertical, parallel; d. open, closed, square; e. flat, diagonal, open).

16. From the following lists of clubs pick the list that represents the best minimum essential set for a beginner: (a. driver, brassie, mashie, putter; b. brassie, midiron, mashie niblick, putter; c. driver, midiron, mashie niblick, putter; d. driver, midiron, mashie, putter; e. spoon, midiron, mashie, putter).

17. The general name for any obstacle on the course is a (a. bunker; b. casual water; c. sand trap; d. rough; e. hazard).

18. One side is said to be "dormie" when (a. it is as many holes ahead as there remain holes to play; b. it has a bad lie from which to approach the green; c. it has made all the holes in par; d. it has won the last hole; e. it has won the first nine holes).

19. Lifting one's head on the swing is a cause of (a. lofting the ball; b. topping the ball; c. hooking the ball; d. slicing the ball; e. pulling the ball).

20. The following person drives first from the second teeing ground: (a. the one with the highest score; b. a lady; c. the one with lowest score; d. the person who is known to drive the shortest distance so the party in advance is not in danger of being hit; e. the person who drove first from preceding teeing ground).

21. A player should use a mashie when (a. distance and high ball are needed; b. short distance and high ball are needed; c. distance is needed on the fairway; d. driving off the tee when one is first learning golf; e. playing short distance).

22. The right to play off first from the third teeing ground is called the (a. privilege; b. first up; c. honour; d. order of play; e. obligation).

23. A perfect score for a hole is called (a. a birdie; b. an eagle; c. par; d. bogie; e. the honour).

24. A ball is said to be stymied when (a. an opponent's ball lies in line of your putt within six inches; b. an opponent's ball lies in line of your approach shot within six inches; c. an opponent's ball lies in line of your putt more than six inches away; d. an opponent's ball lies in line of your approach shot more than six inches away; e. an opponent's ball hits your ball on putting green).

25. In order to best sight the line of the putt the player should stand so that his (a. eyes are to the right of the ball; b. eyes are directly over the ball; c. eyes are to the left of the ball; d. toes point toward hole; e. heels point toward hole).

26. A golf match in which two play on each side is called (a. twosome; b. match play; c. medal play; d. foursome; e. doubles).

27. In case two balls lie within six inches of each other on the putting green (a. the ball lying nearer the hole should be played first; b. the ball lying farther from the hole must be played first; c. the ball lying nearer the hole may be lifted and later replaced; d. the ball lying nearer the hole may be moved out of line but not nearer the cup; e. the ball lying farther from the hole may be moved so that the other ball is not in line of the putt).

28. Match play in golf refers to (a. two people playing on each side; b. one person in competition with one other person; c. competition by holes; d. competition by strokes; e. competition only on the green).

29. A wooden club that will give greater height to a ball than the brassie is the (a. driver; b. midiron; c. spoon; d. mashie; e. mashie niblick).

30. To strive to recover lost ground by special hard hitting is known as (*a. pushing; b. recovering; c. pressing; d. handing; e. approaching*).

31. In the overlapping grip the (*a. little finger of the left hand is placed on top of the first finger of the right; b. little finger of the right hand is placed on top of the first finger of the left; c. middle finger of the right hand is placed on top of the little finger of the left; d. thumb of the right hand is in the palm of the left hand; e. the little finger of the right hand and the first finger of the left hand are interlocked*).

32. In the back swing of the drive the club is lifted by the (*a. right arm; b. left arm; c. both arms; d. left wrist; e. both wrists*).

33. No player should play from any teeing ground until the (*a. preceding party is on the green; b. starter gives signal to start; c. preceding party is taking the approach shot to the green; d. preceding party has moved to the next teeing ground; e. preceding party has taken the second shot*).

34. "Hole out" is a term used to indicate (*a. playing of the final stroke; b. playing the ball out of a hole; c. playing the ball into a hole; d. taking the ball out of the cup; e. dropping the ball when one has been lost*).

35. Having reached the green, the number of strokes a good golfer needs to hole out (*a. is three; b. is two; c. is one; d. varies with size of green; e. varies with contour of green*).

36. It is not considered good etiquette in golf to (*a. play up to the putting green until the party in front is on the next tee; b. play up to the putting green until the party in front has holed out and is moving away; c. drive from the tee while the party in front is still on the putting green; d. stand a little to one side of the person playing a stroke; e. wait to move away from the teeing ground until all members of the party have taken their tee shots*).

37. A ball may be teed up on the fairway in the following situation: (*a. when one is learning the game; b. when one is having trouble topping the ball; c. during winter playing; d. when one is being pressed; e. when one wishes to gain greater distance*).

38. Competition by strokes is called (*a. match play; b. medal play; c. a two-some; d. a foursome; e. doubles*).

39. Two women golfers of national repute are (*a. Helen Wills Moody, Gertrude Ederle; b. Gertrude Ederle, Helen Hicks; c. Glenna Collett, Constance Applebee; d. Helen Hicks, Joyce Wethered; e. Helen Wills Moody, Glenna Collett*).

40. A sharp bend in the fairway is called (*a. an angle fairway; b. a dog leg fairway; c. a curved fairway; d. a bogey; e. a handicap*).

41. The term "away" in golf means (*a. the ball went away from hole; b. the ball to be played first; c. a method of hitting the ball; d. to move a ball away from a temporary hazard; e. the ball to be played last*).

42. It is not permissible to (*a. "Roll the ball over" to see the name; b. drive a second ball from the teeing ground, the first ball having gone out of bounds; c. move or bend or break anything fixed or growing before striking the ball; d. use a midiron on the teeing ground; e. use a spoon on the teeing ground*).

43. When one is in a sand trap one should (*a. ground the club back of the ball; b. tee up the ball; c. play the ball without addressing it; d. strike at the ball with more force than usual; e. aim to hit the sand ten inches back of the ball*).

44. A four ball match refers to (*a. each person in a twosome playing with four balls; b. two players playing their better ball against the better ball of two other players; c. two players playing two balls against two other players and their two balls; d. each person in a twosome playing with two balls; e. each person in a foursome playing his own ball*).

45. The portion of the playing area on which the game of golf ought to be played is called the (*a. links; b. fairway; c. course; d. rough; e. teeing ground*).

### HORSEBACK RIDING

*Directions.*—After each statement there are five words or groups of words in parentheses each preceded by a letter. You are to write in the space indicated on the answer sheet the letter of the *one* word or group of words that makes the truest or best statement. If a wrong letter is given as well as the right one in any given statement, no credit will be given for that statement. If you do not know the correct statement, do *not* guess.

1. When riding, the most efficient way to hold the reins is (*a. high and steady; b. low with continued movements of the hands on all gaits; c. to pull them back and up alternately; d. low and steady; e. to wrap them around the hands*).

2. The proper way to grip a horse when riding an English saddle is with the (*a. calf of the leg; b. heel and calf; c. knee and thigh; d. knee, calf and thigh; e. thigh*).

3. The correct way to start a horse to canter is to (*a. hit him with the crop; b. jerk him hard on the curb bit; c. touch him with the heel and lift up on the reins; d. trot him beyond his stride so that he will break into a canter; e. pull back on the snaffle bit*).

4. The gaits of a three-gaited horse are (*a. gallop, trot, rack; b. walk, rack, run; c. walk, trot, slow gait; d. walk, trot, canter; e. canter, trot, run*).

5. The correct way to lead a horse is to (*a. walk on the left side and hold the rein near the bit with your right hand; b. walk in front of the horse, holding the reins at the end; c. keep as far away from the horse as the reins will allow; d. walk on the right side and hold the reins near the bit with your left hand; e. walk wherever you feel you can best hold him*).

6. When riding a horse at a trot, the hands should (*a. move up and down as you post; b. move forward and backward as the horse steps; c. pull you up as you rise to the trot; d. hold to the neck to give you support; e. remain steady*).

7. When the bridle is on the horse, the brow band (*a. surrounds the nose; b. crosses the forehead; c. comes under the throat; d. holds on the saddle; e. is on the horse's mouth*).

8. When approaching a nervous horse (*a. rush up to him as quickly as possible; b. speak to him in a low voice; c. reach out with your hand to touch him; d. approach him from behind; e. speak to him in a loud voice*).

9. The saddle is fastened on the horse with the (*a. throat latch; b. skirt of the saddle; c. stirrup leather; d. girth; e. stirrup*).

10. Posting means (*a. sitting the canter; b. rising to the canter; c. sitting the trot; d. rising to the trot; e. any movement on the saddle*).

11. The two bits on a bridle are called (*a. snaffle and halter; b. snaffle and bridle; c. snaffle and pelham; d. curb and snaffle; e. curb and curb chain*).

12. The correct position of the body when mounted is to (*a. round the back and shoulders; b. twist from the waist; c. lean forward from the hips; d. assume an erect, sitting position; e. lean back from the hips*).

13. A canter is a (*a. slow gallop; b. fast run; c. rack; d. trot; e. pace*).

14. The correct way to ride a horse on a trot in an English saddle is to (*a. ride as on the canter; b. lean to one side; c. stand in the stirrups; d. sit relaxed in the saddle; e. post*).

15. The proper saddle for park riding is called the (*a. stock saddle; b. English saddle; c. Army saddle; d. McClellan saddle; e. western saddle*).

16. When going from one side of the horse to the other, it is best to go (*a. back of the horse; b. whichever way happens to be the quickest; c. under the horse; d. either back or front of the horse; e. in front of the horse*).

17. The correct position of the foot when mounted on an English saddle is (*a.* parallel to the horse; *b.* with the toe pointed out; *c.* with the heel turned in; *d.* with the heel up; *e.* pidgeon toed with heels up).

18. The gaits of an ideal park or livery horse are (*a.* walk, pace, slow gait; *b.* pace, slow gait, gallop; *c.* gallop, walk, pace; *d.* walk, trot, canter; *e.* rack, walk, canter).

19. When riding, the reins should (*a.* hang loosely from the hands until you feel the need to check the horse; *b.* be held tightly all the time, except on the walk; *c.* be held so that there is a contact at all times between the hands and the horse's mouth; *d.* be held in the position to give the best balance; *e.* be ignored unless you need them).

20. When riding in groups or line formation one should (*a.* allow one foot between you and the rider in front; *b.* ride as near as possible to the horse in front; *c.* allow any distance your horse wishes to keep; *d.* allow at least a horse's length between riders; *e.* allow at least fifty feet between riders).

21. When riding a livery horse for an hour, a sensible distribution of gaits so as to be humane to the horse should be to (*a.* walk one-third of the hour, trot one-third and canter one-third; *b.* walk the first block, trot all the rest of the hour until you come within a block of the barn; *c.* start out on a trot and finish with a canter; *d.* start out with a canter, then change to a trot to rest the horse; *e.* put him into a trot and then canter until you feel tired).

22. The part of the foot which rests on the stirrup in the English style of riding is the (*a.* arch; *b.* toe; *c.* ball; *d.* heel; *e.* heel or the toe).

23. When riding the elbows should be (*a.* held low and close to the sides; *b.* held away from the sides to aid in keeping balance; *c.* moved up and down with the rhythm of the horse at the trot and canter; *d.* moved forward and back with the rhythm of the horse at trot and gallop; *e.* straight).

24. The correct position to take when leading a horse (*a.* is to walk on the right side; *b.* is to walk in front; *c.* is to walk on the left side; *d.* depends on the type of horse you are leading; *e.* is to walk on either side, but always keep even with the saddle).

25. When checking a horse from a trot or canter to a walk, one should (*a.* give a quick, hard pull on the reins; *b.* give a series of upward jerks on the reins; *c.* pull hard on the reins, keeping the hands along side of neck; *d.* loosen the reins, lean forward and say "whoa"; *e.* exert a steady backward pull on the reins with the hands low and together).

26. The correct side on which to stand when mounting a horse (*a.* is the right side; *b.* is the side which you are nearer; *c.* is whichever side seems natural for you; *d.* is the left side; *e.* depends on the type of horse you are to ride).

27. When the horse leaves the ground with his front feet and assumes a vertical position he is (*a.* lunging; *b.* rearing; *c.* galloping; *d.* jumping; *e.* side-stepping).

28. Correct form in the English style of riding includes (*a.* holding the reins in one hand with the other at your side; *b.* keeping both hands on the reins; *c.* changing from one to both depending on gait; *d.* holding the reins in one hand and keeping the other near the saddle; *e.* holding the reins in the left hand and gripping the ends with the right hand).

29. The first gait a beginner learns to ride is a (*a.* canter; *b.* walk; *c.* trot; *d.* pace; *e.* run).

30. When riding with a group it is a good policy to start your horse with a (*a.* verbal sound; *b.* quick jerk of the reins; *c.* jump; *d.* touch of the heel, hand, or crop; *e.* hard crack of the whip).

31. The proper adjustment of the girth is (*a.* as tight as one's strength makes possible; *b.* so that the thickness of the hand may be barely inserted between it and the horse's belly; *c.* snugly as it may be pulled up without effort; *d.* very loosely; *e.* dependent on the type of horse).

32. The best way to handle a horse that is inclined to kick is to (*a.* hold his head down with his chin against his chest; *b.* hold his head up; *c.* keep his head down and to one side; *d.* loosen the reins and let the horse have his head; *e.* raise and lower the head alternately).

33. When riding a horse at a canter, the hands (*a.* move slightly forward-backward with the motion of the horse's gait; *b.* remain still; *c.* swing in a jerky movement; *d.* hold to the mane for support; *e.* move up and down).

34. When a horse becomes frightened and backs up one should (*a.* pull back on the reins; *b.* take a tight hold of the reins and press the heel against the horse; *c.* pull the right rein and kick with the left heel; *d.* pull the left rein and kick with the left heel; *e.* loosen the reins and touch the horse with the heel).

35. The correct position in the saddle on a canter (*a.* is to lift the hips from the saddle on each leap of the horse; *b.* is to keep the hips on the saddle at all times; *c.* is to raise and lower the hips alternately; *d.* varies with the canter of the horse; *e.* depends on the individual rider).

36. When dismounting from an English saddle, the right hand remains on the front of the saddle until (*a.* the left foot touches the ground; *b.* the right leg swings over the horse's back; *c.* the right leg starts to move; *d.* the right foot touches the ground; *e.* the left leg starts to move).

37. The following are parts of a bridle: (*a.* bit, cheek-strap, cantle, curb-chain; *b.* rein, bit, nose band, cantle; *c.* brow-band, rein, skirt, bit; *d.* crown-piece, cheek-strap, brow-band, lip-strap; *e.* lip-strap, brow-band, nose-band, girth).

38. A good way to get the approximate length of the stirrups before mounting is to (*a.* measure the stirrup with the arm; *b.* lift the leg and measure; *c.* glance at the stirrup and leg; *d.* guess at the length; *e.* stand in front of the horse and estimate the length).

39. The curb bit is (*a.* more severe than the snaffle bit; *b.* less severe than the snaffle; *c.* the same as the snaffle bit; *d.* the easiest bit that is used on a horse; *e.* another name for the Pelham bit).

40. When bridling a horse the bit is placed (*a.* under the tongue; *b.* either over or under the tongue; *c.* on top of the tongue; *d.* whichever way the horse takes it; *e.* either over or under the tongue according to the type of bit).

41. If one horse of a group starts to run, the best thing to do is to (*a.* send one rider after the horse; *b.* ignore the trouble; *c.* keep on going; *d.* stop all the horses; *e.* send two or three riders after the horse).

42. When the bridle is on the horse, the curb strap or chain (*a.* holds on the bridle; *b.* holds the curb bit in the horse's mouth; *c.* passes over the horse's nose; *d.* is part of the curb bit which is in the horse's mouth; *e.* passes under the jaw of the horse).

43. At the canter the legs (*a.* should move forward and back with the motion of the horse; *b.* should be extended forward with the feet braced in the stirrups; *c.* are held back with toes down; *d.* are in the same position as at the walk and stationary with respect to the horse; *e.* are drawn up so the calf of the leg presses the horse).

44. When the bridle is on the horse, the nose band (*a.* crosses the forehead; *b.* surrounds the nose; *c.* is in the horse's mouth; *d.* holds on the bridle; *e.* holds the bit in the horse's mouth).

45. When mounted with the legs in the proper position the stirrup straps



should (*a.* point to the lower part of the horse's shoulder; *b.* hang vertically; *c.* be inclined slightly to the rear; *d.* change position as the gaits change; *e.* hang in a horizontal position).

46. The following are parts of the saddle: (*a.* crown-piece, stirrup leather, cantle, girth; *b.* stirrup, pommel, check, halter; *c.* stirrup leather, cantle, skirt, girth; *d.* cantle, pommel, rein, skirt; *e.* skirt, stirrup leather, stirrup, hames).

47. The correct position of the hands is (*a.* backs of the hands down and close together; *b.* backs of the hands up and close together; *c.* the most natural position for the rider; *d.* backs of the hands vertical and hands close together; *e.* one hand on top of the other).

48. The reins should be held so that (*a.* one curb rein and one snaffle rein is in each hand and separated by the fourth finger with the snaffle rein outside; *b.* one curb rein and one snaffle rein is in each hand and separated by the fourth finger with the curb rein outside; *c.* both curb reins in one hand and both snaffle reins in the other; *d.* curb and snaffle rein in each hand and not separated; *e.* they are near the crown piece).

49. The purpose of the curb chain is (*a.* to hold the bit in the mouth; *b.* to act as a fulcrum so that the lever action of the curb bit may be accomplished; *c.* unimportant. It is a decoration; *d.* to keep the bit down on the tongue; *e.* to support the lip-strap).

50. The gaits of a five-gaited horse are (*a.* pace, canter, slow gait, rack, trot; *b.* gallop, slow gait, trot, canter, walk; *c.* walk, trot, canter, rack, slow gait; *d.* walk, trot, canter, gallop, slow gait; *e.* walk, pace, canter, rack, slow gait).

51. The movement of the horse's legs on a trot is (*a.* the same as on a canter; *b.* both fore and hind leg on same side move forward at the same time; *c.* as the left foreleg comes forward, the right hind leg comes forward and vice-versa; *d.* the same as on the pace; *e.* the same as on a rack).

52. The correct position of the bit in the horse's mouth is (*a.* between the cropping teeth; *b.* on the bars of the jaw or mouth; *c.* between the grinding teeth; *d.* in a position so that it can move up and down along the teeth; *e.* on the bars of the mouth or on the teeth, depending on the horse).

53. The purpose of stirrups is to (*a.* balance the rider; *b.* support the weight of the feet; *c.* support approximately half the rider's weight; *d.* rise in at the canter; *e.* rise in at the trot).

54. The proper position of the saddle when on the horse is (*a.* on the hips; *b.* just behind the withers; *c.* on the neck; *d.* on top of the withers; *e.* as far back of the withers as possible).

55. The rhythm of a canter is (*a.* waltz time; *b.* fox trot time; *c.* 4/4 time; *d.* the same as a trot; *e.* the same as a rack).

56. When rising to the trot (*a.* go high enough so daylight shows between hips and saddle; *b.* avoid showing daylight between hips and saddle; *c.* the height is immaterial, as long as you keep in rhythm with the horse; *d.* the height of the post varies with the speed of the trot; *e.* the height of the post depends on the length of the stride).

57. The strap which holds the bridle on is called the (*a.* girth; *b.* check strap; *c.* throat latch; *d.* rein; *e.* caveston).

58. The correct lead for a horse to take when cantering in a ring is (*a.* the outside leg on a fast canter and the inside leg on a slow canter; *b.* the outside front leg; *c.* the leg with which the horse ordinarily leads; *d.* the inside front leg; *e.* either leg, according to the type of horse).

59. The withers of a horse are (*a.* at the junction of the neck and back; *b.* the part of the back under the saddle; *c.* the under part of the neck; *d.* the same as the frog; *e.* just in front of the hips).

60. The best way to handle a horse that is inclined to rear is to (*a.* raise and lower the head alternately; *b.* hold his head up with the chin out; *c.* hold the head down with the chin in; *d.* loosen the reins and let the horse have his head; *e.* hold his head up and to one side).

61. The proper position of two bits in the horse's mouth is (*a.* one on top of the other; *b.* the curb just below the snaffle; *c.* the curb two inches below the snaffle; *d.* the curb just above the snaffle; *e.* dependent on the disposition of the horse).

62. The proper way to put the bit in the horse's mouth is to (*a.* hold the bit in the right hand and press it against the teeth until the horse opens his mouth; *b.* hold the bit against the teeth and when the horse feels it, he will open his mouth; *c.* hold the bit with the thumb and forefinger of the left hand and press against the bars of the lower jaw with the third finger of the same hand; *d.* hold the bit with the thumb and forefinger of the right hand, and press against the bars of the lower jaw with the third finger of the same hand; *e.* pull the bridle over his head repeatedly until the horse opens his mouth).

63. The correct position of the legs when mounted is (*a.* lower legs vertical with the toes turned out; *b.* lower legs inclined forward from the knee; *c.* feet held so that the lower legs and thighs make the same angle with the vertical; *d.* legs held very straight so that there is no bend at knee; *e.* described as the clothespin seat).

64. The proper adjustment of the throat latch is (*a.* pulled up tight so that no finger can be inserted between it and the horse's throat; *b.* pulled tight enough to prevent the brow band from being lifted from the horse's forehead; *c.* pulled tight enough to prevent the bridle from slipping off; *d.* dependent on the horse; *e.* fastened so that the first finger may be easily inserted between it and the horse's throat).

65. A good policy when riding is to (*a.* look down at your hands; *b.* watch the road ahead; *c.* look from one side to the other; *d.* watch the horse's head; *e.* look toward your feet).

### TENNIS

*Directions.*—After each statement there are five words or groups of words in parentheses each preceded by a letter. You are to write in the space indicated on the answer sheet the letter of the *one* word or group of words that makes the truest or best statement. If a wrong letter is given as well as the right one in any given statement, no credit will be given for that statement. If you do not know the correct statement, do *not* guess. Print the answers in capital letters. Do not write on the question sheet. Place the number of the question sheet on each answer sheet.

1. The first service of a game is made to the (*a.* back court; *b.* right back court; *c.* left back court; *d.* right service court; *e.* left service court).

2. The most advantageous place to stand when serving a singles game is (*a.* behind the base line near the alley; *b.* inside the base line in order to be as near opponents as possible; *c.* with one foot on either side of the base line; *d.* behind the base line and near the center mark; *e.* with one foot on the base line).

3. The server may have (*a.* only two let balls in succession; *b.* any number of let balls in succession; *c.* three let balls in succession; *d.* only one let ball; *e.* four let balls in succession).

4. Player *A* serves from the wrong court; he loses the point, then claims it was a fault. The decision is as follows: (*a.* the point stands as played; *b.* the point is played over again; *c.* both receive a point; *d.* server should serve again; *e.* serve goes to opponent).

5. Of the following, select the statement which explains the proper receiving formation of a doubles team on the service: (a. the first one to serve should receive first. Alternate with partner for the first receive on each game thereafter; b. the first one to serve receives second; thereafter always receives in the same court; c. players decide between them which one is to stand in the right court and receive first in right court and receive first service; thereafter that player shall always receive in right court throughout the set; the partner will always receive in left court throughout the set; d. players decide between them which one is to stand in right court and receive first service; thereafter rotate positions with partner on every game; e. there is no definite receiving formation for a doubles team).

6. When serving from the right-hand court the score is always (a. 15-30; b. 40-30; c. love-15; d. an odd number of points; e. an even number of points).

7. At the finish of every stroke the body weight should be (a. on the heels of both feet; b. on the rear foot; c. moving forward; d. evenly distributed between both feet; e. moving backward).

8. To cover the court most efficiently in singles it is best to (a. go to the net after every stroke; b. remain where last stroke was played until the ball is returned; c. always return to the left side of the court to protect one's backhand stroke; d. return to a spot behind the center of the baseline after every stroke; e. return to the center of the service line after every stroke).

9. A, the server, serving the second ball to B steps on the base line of the court. The ball lands in the proper court but B makes an unsuccessful return. The score was 30-15. The score now is (a. deuce; b. 40-15; c. 30 all; d. game for A; e. game for B).

10. "Volleying" the ball means (a. hitting it so as to assure the winning of the point; b. hitting it high in the air over opponent's head; c. returning the ball before it strikes the ground; d. returning the ball on first bounce; e. not returning the ball).

11. The score is 40-40. The server wins a point and her opponent wins the next point. The score is (a. 40-30; b. 30-40; c. game; d. deuce; e. 30-30).

12. After playing a game the racquet should be (a. hung on the wall with the frame on a nail; b. stood on the floor with the handle down; d. laid on the floor; d. stood on the floor with the head down; e. put in a case and press).

13. The height of the net in the center is (a. four feet; b. three feet; c. three feet, two inches; d. the height of one racquet; e. the height of two racquets).

14. The smallest score necessary to win a set after "games all" is (a. 8-6; b. 5-5; c. 7-5; d. 6-0; e. 6-4).

15. A returns the ball to B. The ball hits a net post and bounds into B's court. B fails to return the ball. The umpire's decision should be (a. fault; b. point for B; c. let ball; d. point for A; e. replay point).

16. In doubles game both A and his partner A1 struck at and missed the ball which dropped outside the court; neither player calls out. The point is won by (a. the opponents of A players because A players struck at the ball; b. the opponents of A players because A players failed to call out; c. A players; d. neither players—it must be replayed; e. both teams).

17. On the service a ball that touches the net and falls into the proper court is called (a. a net ball; b. a good ball and should be played; c. a let ball; d. a fault; e. a point for the striker out).

18. The least number of games which must be played to win a set is (a. four; b. five; c. six; d. seven; e. eight).

19. Any ball which must be replayed is called (a. a fault; b. a let; c. an error; d. a dead ball; e. a net ball).

20. In doubles play, a lob is used to (a. "kill" the ball; b. speed up the play;

*c.* force the opponent from the net; *d.* give partner time to go to net; *e.* warm up before playing).

21. On the forearm stroke one should (*a.* face the net; *b.* have the right side toward the net; *c.* have the left side toward the net; *d.* stand on a diagonal; *e.* stand in any position so as to hit the ball).

22. For the first service of the game the server may stand (*a.* where she chooses on the base line; *b.* just inside the base line on the right side of the court; *c.* just inside the base line on the left side of the court; *d.* where she chooses behind the line from the right of the center mark to the side line; *e.* where she chooses behind the line from the left of the center mark to the side line).

23. The "center theory" explains (*a.* formation for doubles; *b.* a strategic method of returning the ball; *c.* the reason for standing in the center of the back court to return the ball; *d.* the appropriate time for the use of the lob; *e.* the reason for forward-backward game).

24. A fault is (*a.* a served ball which falls in the proper court after touching the top of the net; *b.* a served ball which fails to land in the proper court; *c.* a ball driven out by the receiver; *d.* an error committed by a player touching the net; *e.* a "smashed" return which falls outside the court).

25. In a women's match the players may rest (*a.* whenever necessary; *b.* after every set; *c.* after first set only; *d.* after second set only; *e.* after every sixth game).

26. The best height for the return of a ball on the forehand is (*a.* below the knee; *b.* above the head; *c.* head height; *d.* knee height; *e.* between the knee and waist).

27. In the forehand grip the (*a.* thumb is extended up the handle of the racquet; *b.* fingers and thumb are around the handle with the first finger spread slightly from the others; *c.* hand is about three inches from the end of the handle; *d.* index finger is extended up the handle of the racquet; *e.* first two fingers are spread from the others).

28. The term "advantage—in" means the (*a.* point must be replayed; *b.* receiver has won one point after deuce; *c.* server has won one point after deuce; *d.* server has won the first point of the game; *e.* server has won the game).

29. After throwing the ball up preparatory to serving, the server decides not to strike at it and catches it instead. The decision is (*a.* server has right to serve over again; *b.* a fault; *c.* let ball; *d.* server loses the point; *e.* server wins a point).

30. Player *B* is standing outside the court and is hit by a ball. The decision is (*a.* point for *A*; *b.* point for *B*; *c.* a let ball; *d.* point for both *A* and *B*; *e.* a fault—ball to be replayed).

31. The value of hitting the ball at the highest possible reach in serving is (*a.* to prevent the receiver from returning it; *b.* to give your opponent time to step into position; *c.* to prevent stepping on the baseline; *d.* to hit it down as hard as possible and have it land in court; *e.* to give the ball a back spin).

32. When waiting for the return the body weight should be (*a.* on the heels; *b.* on the outsides of the feet; *c.* on the balls of the feet; *d.* on the right foot; *e.* on the left foot).

33. The number of sets played in an official women's tournament is (*a.* one; *b.* three; *c.* five; *d.* seven; *e.* nine).

34. Player *A* gains the point when his opponent *B* (*a.* returns the ball so that it falls on *A*'s base line instead of in the court; *b.* fails to call "out" on the second served ball which was out; *c.* has served three let balls; *d.* serves the second ball on the service court line instead of in the court; *e.* while playing a net game strikes the ball before it comes over the net).

35. In returning the ball at net position the best policy is to (*a.* make all re-

turns easy; *b.* try to "kill" all balls; *c.* allow your partner in back court to return all fast balls; *d.* return all balls directly to your opponent; *e.* smash all balls).

36. A high ball hit down forcefully to the opposite court with the intent to "kill" is called (*a.* lob; *b.* volley; *c.* smash; *d.* fault; *e.* service).

37. The following principle is applicable to the service, backhand, and forehand: (*a.* the front of the body faces the net; *b.* the weight is transferred from the right to the left foot; *c.* the weight is transferred from the left to the right foot; *d.* the elbow is kept nearly straight throughout the stroke; *e.* the left side of the body is in line with the direction in which the ball is to go).

38. With a given speed a ball carrying top spin as compared with an undercut ball results in a (*a.* deep ball; *b.* short ball; *c.* sharp cut to the right; *d.* sharp cut to the left; *e.* ball of the same depth).

39. The position of readiness is (*a.* with the left side to the net; *b.* facing the net squarely with one foot forward and the weight on the forward foot; *c.* with the right side to the net; *d.* facing the net with the racquet held out to the right side; *e.* facing the net with weight evenly on balls of feet, racquet balanced on left hand).

40. *A.*, unable to reach the ball that *B.* has sent to him, throws his racquet and hits the ball. Both racquet and ball fall over the net into *B.*'s court and *B.* fails to return the ball. The decision is (*a.* let ball declared; *b.* point for *B.*; *c.* point for *A.*; *d.* fault for *B.*; *e.* point must be played over again).

41. "Games all" is a term used to indicate that (*a.* both players have won five games; *b.* one player has won a set; *c.* one player is two games ahead of his opponent; *d.* both players have won a set; *e.* six games have been played).

42. If a player serves in the wrong court and discovers his mistake in the middle of a game he (*a.* loses the game; *b.* continues serving order as changed; *c.* forfeits points won and continues game; *d.* restarts game; *e.* serves from correct court and points stand as won).

43. Famous personalities connected with tournament tennis are (*a.* Suzanne Lenglen, Charles Paddock, Bobby Jones; *b.* Helen Wills Moody, Suzanne Lenglen, Helen Hicks; *c.* Georgia Coleman, Molla Mallory, William Tilden; *d.* Helen Jacobs, Helen Wills Moody, Betty Nuthall; *e.* Vincent Richards, Ellsworth Vines, Johnny Weismuller).

44. The center mark bisects the (*a.* side line; *b.* service line; *c.* base line; *d.* net; *e.* back stop).

45. During the second service, *A.* lifts both feet simultaneously off the ground but successfully places the ball in *B.*'s service court. *B.* trips and falls before he has a chance to play on the ball. Umpire's decision should be (*a.* serve over again; *b.* point for *B.*; *c.* point for *A.*; *d.* let ball; *e.* point to each player, then play is resumed).

### BASEBALL

*Directions.*—After each statement there are five words or groups of words in parentheses each preceded by a letter. You are to write in the space indicated on the answer sheet the letter of the *one* word or group of words that makes the truest or best statement. If a wrong letter is given as well as the right one in any given statement, no credit will be given for that statement. If you do not know the correct statement, do *not* guess. Print the answers in capital letters. Do not write on the question sheet. Place the number of the question sheet on each answer sheet.

1. The team's strongest batter should have the following place in the batting order: (*a.* first; *b.* second; *c.* third; *d.* fourth; *e.* fifth).

2. A waste ball is (*a.* a legally pitched ball over the plate and between knees and shoulders of batter but which he makes no attempt to hit; *b.* a ball at waist



height; *c.* a ball which is overthrown at any base; *d.* a legally pitched ball sent so batter will not strike at it and the catcher can put it in field immediately; *e.* a legally pitched ball which passes the catcher allowing baserunners to advance).

3. The officials in a baseball game may include (*a.* a scorekeeper, a referee, and an umpire; *b.* two umpires and a timekeeper; *c.* an umpire, a scorekeeper, and a limited number of coaches; *d.* a timekeeper, an umpire, and coaches; *e.* two umpires and a scorekeeper).

4. A home run is the term applied to (*a.* the run made by any runner who has completed the circuit of bases; *b.* the run made from third to home; *c.* a continuous run to all bases on one hit without fielding errors; *d.* a run of at least two bases on one hit; *e.* a run from 1st, to 2nd, to 3rd, and home).

5. Runners on first and third bases; the pitcher pitches a ball which the catcher catches. Runner on first is stealing to second. The catcher should (*a.* hold the ball; *b.* throw it to second; *c.* throw it to third; *d.* send it to first to catch runner off base; *e.* throw it to the shortstop who controls both second and third).

6. Rules for legal batting include (*a.* swinging only at good balls; *b.* holding bat near the end; *c.* never bunting unless the baserunners signal for a bunt and run play; *d.* staying in batter's box until ball is hit; *e.* meeting ball just in front of home plate).

7. In catching a high ball one should (*a.* stand with feet together; *b.* keep the fingers pointing straight ahead toward the ball; *c.* hold the thumbs parallel, fingers pointing up and relaxed; *d.* hold the little fingers parallel, fingers pointing down and relaxed; *e.* hold the heels of the hands together, fingers pointing outward).

8. If a high ball off the bat is going toward third base the baseman should be backed up by (*a.* the pitcher; *b.* the right shortstop; *c.* the left fielder; *d.* the center fielder; *e.* the catcher).

9. To make a legal pitch the pitcher must start (*a.* with feet together on the plate or line; *b.* with feet apart for better balance; *c.* with left side toward the batter; *d.* any place in pitcher's box; *e.* with the right foot forward).

10. A ball landing foul and settling fair between home and first is called a (*a.* dead ball; *b.* good ball; *c.* foul ball; *d.* strike; *e.* fair ball).

11. There are two outs and a runner on third. The batter hits a fly. The runner should (*a.* hold the base until the fly is caught or missed; *b.* attempt to get home before the fly is caught; *c.* run the minute the ball is hit; *d.* start immediately but if the fly is caught get back to third before the ball can; *e.* keep the catcher and third baseman playing on him so batter can make more bases).

12. A forced run is a run (*a.* made by batter hitting the ball with no one on base; *b.* started by the pitcher or fielder throwing ball to a base where a runner has led off; *c.* necessitated by the batter's becoming a baserunner; *d.* made by baseman after a ball has been called; *e.* made by a runner returning to a base when a foul ball has been hit).

13. Runner leading off first, batter hits a foul fly which is caught by the catcher who fields the ball to first base before runner can return. The umpire declares (*a.* batter is out, runner on first is safe; *b.* a strike on the batter and the runner is out; *c.* batter and baserunner are out; *d.* strike on the batter and runner is allowed to return to base because it was a foul ball; *e.* batter is out if it is the third strike, baserunners may advance).

14. One way to insure accuracy in batting is to (*a.* keep your eye on the ball and swing hard; *b.* swing your bat even with your shoulder; *c.* keep your eye on the pitcher and strike only at good balls; *d.* meet the ball in front of the plate; *e.* keep your eye on the ball and swing easily).

15. For a right-handed batter, the correct position of hands on the bat is (*a.* hands slightly apart with the extreme end of the handle in the palm of the left

hand; *b.* left thumb and right little finger together or slightly apart and near the end of the bat; *c.* right thumb and left little finger together and near the end of the bat; *d.* left thumb and right little finger locked eight to ten inches up from the end of the bat; *e.* all fingers interlaced and hands placed near end of bat).

16. If the ball is sent from catcher to second, the second baseman should be backed up by (*a.* the center fielder and shortstop; *b.* the center fielder and pitcher; *c.* the pitcher and shortstop; *d.* the right fielder; *e.* the right fielder and center fielder).

17. The batter is out if he (*a.* bunts on the third strike; *b.* attempts to bunt and misses; *c.* bunts when there are runners on base; *d.* bunts a foul on the third strike; *e.* bunts with both hands together on the bat).

18. A substitute second baseman is put in in the fourth inning. Her place in batting order is (*a.* the last batter; *b.* the third batter; *c.* the place of the girl for whom she is substituting; *d.* any place the coach chooses to put her; *e.* the first batter in that inning since the rest have batted at least once).

19. When a runner from third tries to steal home the batter should (*a.* step out of the box; *b.* bunt toward third to draw the basemen away; *c.* bunt toward first to swing play to another part of the field; *d.* remain in her box; *e.* strike at the first pitched ball in order to be out of the way).

20. If there are two outs and bases are full, a batted ball should be played to (*a.* first base; *b.* second base; *c.* third base; *d.* home; *e.* the nearest base).

21. An overthrow at third. The umpire allows baserunners on first and third to (*a.* advance any number of bases without liability to be put out; *b.* advance two bases without liability to be put out; *c.* advance any number with liability to be put out; *d.* advance to home and third respectively; *e.* advance second and home with liability to be put out).

22. In overrunning first base, the runner although returning immediately is out if (*a.* she turns to the left; *b.* she turns to the right; *c.* the baseman holds the ball on base before she returns; *d.* her foul fly is caught; *e.* she forces another runner off the base).

23. A baserunner is hit by a fair hit ball direct from the bat. The umpire declares (*a.* the runner is out; *b.* the batter is out; *c.* the batter is out and all runners may advance one base; *d.* all baserunners must return to original bases; *e.* a strike on the batter and the baserunner is out).

24. A "foul ball" is called if the ball (*a.* lands in foul territory in infield; *b.* goes direct from the bat into the catcher's hands; *c.* is pitched by pitcher outside her box; *d.* goes above the head of the batter and is caught; *e.* is hit by batter and settles in foul infield territory).

25. Coaches for the baserunners must be (*a.* people not connected with either team; *b.* the coaches hired for that particular purpose; *c.* any person connected with the team at bat; *d.* friends of either team; *e.* players in the batting order of the team at bat).

26. With no one on base, a hard hit is sent into left field and is thrown to third base. The third baseman should be assisted by (*a.* pitcher and second baseman; *b.* the pitcher; *c.* shortstop and second baseman; *d.* the pitcher and the catcher; *e.* pitcher and shortstop).

27. Runners on first and third, two out. Batter No. 5 strikes and misses the first ball pitched. Catcher signals for a waste ball which he catches and sends to second putting out runner stealing from first. The next time the team comes to bat the players must take the following positions: (*a.* batter No. 5 up to bat with a ball and strike against him and runner still on third; *b.* batter No. 5 up with two strikes against him and no runners on base; *c.* batter No. 6 up with no balls or strikes, runner on third, No. 5 on first or second; *d.* batter No. 5 up with no balls or strikes against him and bases clear; *e.* batter No. 6 up with bases clear).

28. A ball direct from bat rolls on baseline to first and across the base, settling in foul territory. The umpire declares (*a. dead ball; b. fair ball; c. foul ball; d. block ball; e. strike*).

29. On the first strike a batted ball goes above the head of the batter into the catcher's hands. The umpire declares (*a. strike one; b. foul ball; c. batter is out; d. foul tip; e. baserunners are entitled to one base*).

30. The pitcher in her box pretends to throw to a base where there is a runner and does not complete her throw. The penalty is (*a. a strike is called and baserunners may advance one base; b. a ball is called and baserunners may advance one base; c. a strike is called and baserunners may not advance; d. if the motion were made toward second, baserunners are entitled to two bases; e. baserunners may advance one base without liability to be put out*).

31. Runner on first base, the batter deliberately steps in front of a legally pitched ball. The umpire declares (*a. batter may walk to first; b. batter is out; c. a ball; d. a strike; e. batter is entitled to two bases*).

32. If there are two outs and a runner on third, the best place to field a batted ball is to (*a. home; b. first base; c. second base; d. third base; e. the nearest base*).

33. A fielder can increase the length of her throws by (*a. facing in the direction the ball is to go; b. turning her right shoulder in the direction of the throw; c. stepping forward with the right foot as she throws the ball; d. release the ball a little above shoulder height; e. follow through with hand at waist height*).

34. The batter strikes at and misses a legally delivered ball which then hits her. The umpire declares (*a. the batter is out; b. a strike; c. a ball; d. batter may take her base; e. a block ball*).

35. Two balls and two strikes; a bunted ball lands inside third baseline and rolls out to the left of the line. The umpire declares (*a. the ball is foul and the batter is out; b. a fair ball and batter should run; c. a foul ball so batter still has two balls and two strikes; d. the ball is a fair ball and the batter is out; e. a fair ball and baserunners may advance*).

36. Runners on second and third, two outs. The runner on third scores a run on a third out if (*a. the batter is put out at first; b. the third out is a force-out; c. she reaches home before the batter is put out at first; d. she reaches home after the batter is safe at first but before the runner on second is tagged out; e. the catcher tags her instead of holding the ball on base*).

37. The second baseman attempting to field a batted ball on the baseline is hit by the runner. The umpire declares (*a. the runner is out; b. the runner is entitled to the base; c. all runners may advance one base; d. a strike is called on the team at bat; e. the runner is out and a strike is called on the team at bat*).

38. A good batter will (*a. strike at the first ball pitched in order to surprise the pitcher; b. never waste time running on foul balls; c. know where every baserunner is; d. wait for at least one strike to be called on him before swinging; e. consider only where open spots are in the field*).

39. Pitcher in her box whirls suddenly and with her feet on the plate throws to third to catch a runner off base. Ball is caught and runner tagged off base. The umpire declares (*a. runner is safe and shall remain on base until the next pitched ball; b. runner is out, other baserunners may not advance; c. runner goes home and baserunners may not advance; d. all baserunners advance one base; e. girl on third is out unless hers would be the third out*).

40. Runners on second and third—grounder batted to outfield. One runner can be put out by (*a. holding the ball on second; b. getting the ball to third ahead of the runner from second; c. getting ball home ahead of runner from third; d. tagging last batter as he overruns first; e. getting ball to first ahead of runner from home*).

41. Ball having been fielded by the right fielder is sent to second. The second baseman should be backed up by (a. the right shortstop and pitcher; b. the center fielder; c. left shortstop; d. both shortstops; e. left fielder).

42. Force is added to the batting swing by (a. stepping forward with the right foot in the direction of first base; b. standing with feet well apart, weight evenly distributed; c. swinging the bat down on the ball; d. transferring weight from left to right foot; e. stepping with left foot to meet the ball).

43. Ball lands just inside first base and rolls foul beyond the base. It is said to be a (a. dead ball; b. foul ball; c. fair ball; d. grounder; e. waste ball).

44. A foul tip is (a. a strike only for the first two strikes; b. always called a foul; c. any foul hit caught by the catcher; d. any foul ball which does not go above the head of the batter; e. always a strike).

45. On a foul tip all baserunners (a. may advance at their own risk; b. must touch base and may then advance; c. may advance only if the foul tip occurs on the third strike; d. may not advance; e. must be given time to return to base).

# Interests and Abilities as a Basis for Program Planning

BY ELSIE JACOBSEN STUHR

*Department of Physical Education for Women,  
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MANY of us in the past few years have been faced with the necessity of reorganizing programs to fit reduced budgets. With the number of courses to be offered reduced considerably it has been necessary to re-evaluate the entire curriculum and each course in the curriculum in an attempt to fill the needs of the students to the best of our abilities despite lower budgets and smaller personnel. To those departments which had been offering a varied program and a large choice of activities the question of which courses to keep and which to eliminate was a vital factor.

Feeling that the abilities and interests of the students should be considered in planning a program, a questionnaire was devised for determining these factors at Oregon State College. The questionnaire included a list of activities and spaces for the student to check the following:

1. Activities in which she was fairly well skilled when she entered college.
2. Activities which she had hoped to learn or improve in when she entered college.
3. Activities which she has taken while in college.
4. Activities which she would like to take.
5. The hour she would prefer to have physical education.

It was realized that interest in an activity depended on many uncontrollable factors, e.g., experience in the activity, facilities for taking part in the activity, the glamour which surrounds some sports particularly those which are spectacular, the methods and personality of the instructor; however, it was felt that a questionnaire would at least give an indication as to which courses the students would like to have offered.

It should also be borne in mind that lack of interest in an activity is apt to be due to lack of knowledge and skill in that activity. This may be illustrated by badminton. Very few entering freshmen have ever seen a game of badminton and still fewer have tried to play it; consequently, their initial interest is low. After they have seen the game played, heard enthusiastic reports, and have tried to play, they are in the ranks of badminton enthusiasts. For this reason, lack of initial



interest is no reason for eliminating an activity from a program although continued lack of interest may be a valid reason.

The purpose of the questionnaire was to determine:

1. Types of skills possessed by entering freshmen.
2. Types of activities desired.
3. Trend of interest as indicated by desires of freshmen, sophomores, juniors, and seniors.
4. Desirable hours for scheduling physical education courses.

This report is based on replies from 436 women students who were enrolled in 1934-35. This number included 164 freshmen, 120 sophomores, 66 juniors, 50 seniors, 36 unclassified.

#### RESULTS OF QUESTIONNAIRE

##### *Abilities and Interests.*—(See Charts I and II)

Activities in which students considered themselves fairly well skilled upon entering college.

	%
Swimming .....	58.4
Basketball .....	46.4
Baseball .....	43.0
Tennis .....	36.5
Volleyball .....	34.5
Riding .....	26.6
Diving .....	16.1
Horseshoes .....	15.6
Golf .....	14.0
Track and Field .....	12.4
Canoeing .....	11.5
Folk Dancing .....	8.9
Tap Dancing .....	8.5
Tumbling .....	7.5
Clogging .....	7.1
Soccer .....	5.5
Archery .....	4.6
Natural Dancing .....	4.1
Hockey .....	4.1
Speedball .....	3.6
Deck Tennis .....	3.4
Badminton .....	1.6
Squash .....	.92
Fieldball .....	.69
Fencing, Ping-Pong .....	.46
Apparatus .....	.46
Rifle, Gymnastics .....	.23
Polo .....	.23

Activities students desired to take.

	%
Tennis .....	62.3
Swimming .....	56.5
Golf .....	51.9
Riding .....	51.2
Diving .....	46.9
Canoeing .....	36.1
Archery .....	35.8
Tap Dancing .....	33.3
Natural Dancing .....	31.7
Badminton .....	28.7
Fencing .....	24.6
Basketball .....	24.3
Clogging .....	17.4
Polo .....	14.9
Tumbling .....	13.8
Deck Tennis .....	11.9
Hockey .....	11.7
Baseball .....	8.9
Horseshoes .....	8.5
Volleyball .....	8.5
Track and Field .....	7.3
Speedball .....	5.5
Soccer .....	5.2
Fieldball .....	5.0
Squash .....	3.4
Rifle .....	1.7
Ping-Pong .....	1.15

These results indicate that many freshmen have had experience in swimming, basketball, baseball, tennis, volleyball, and riding and would like to learn more about the individual sports, such as tennis, swimming, golf, riding, diving, canoeing, and archery.

*Trends of Interest.*—The trends of interest were determined by charting the following: (See Charts III and IV.)

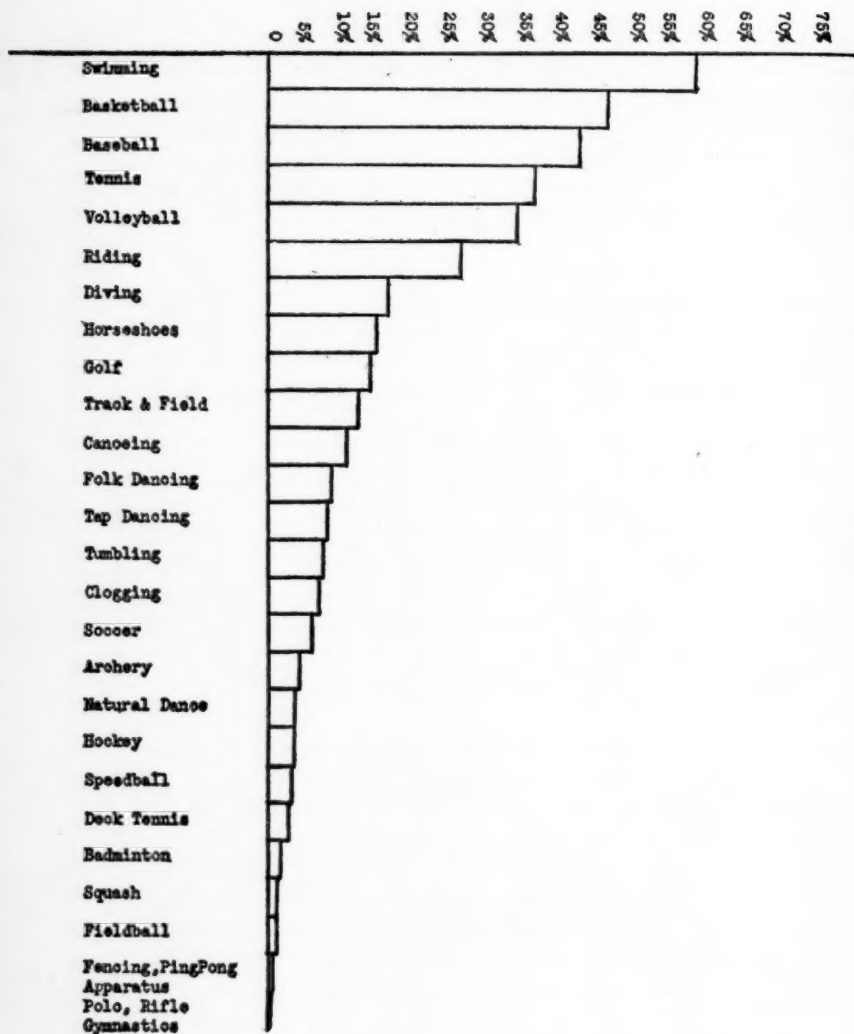


Chart I  
Total - 436  
Activities in Which Entering Freshmen Were Fairly Well Skilled.

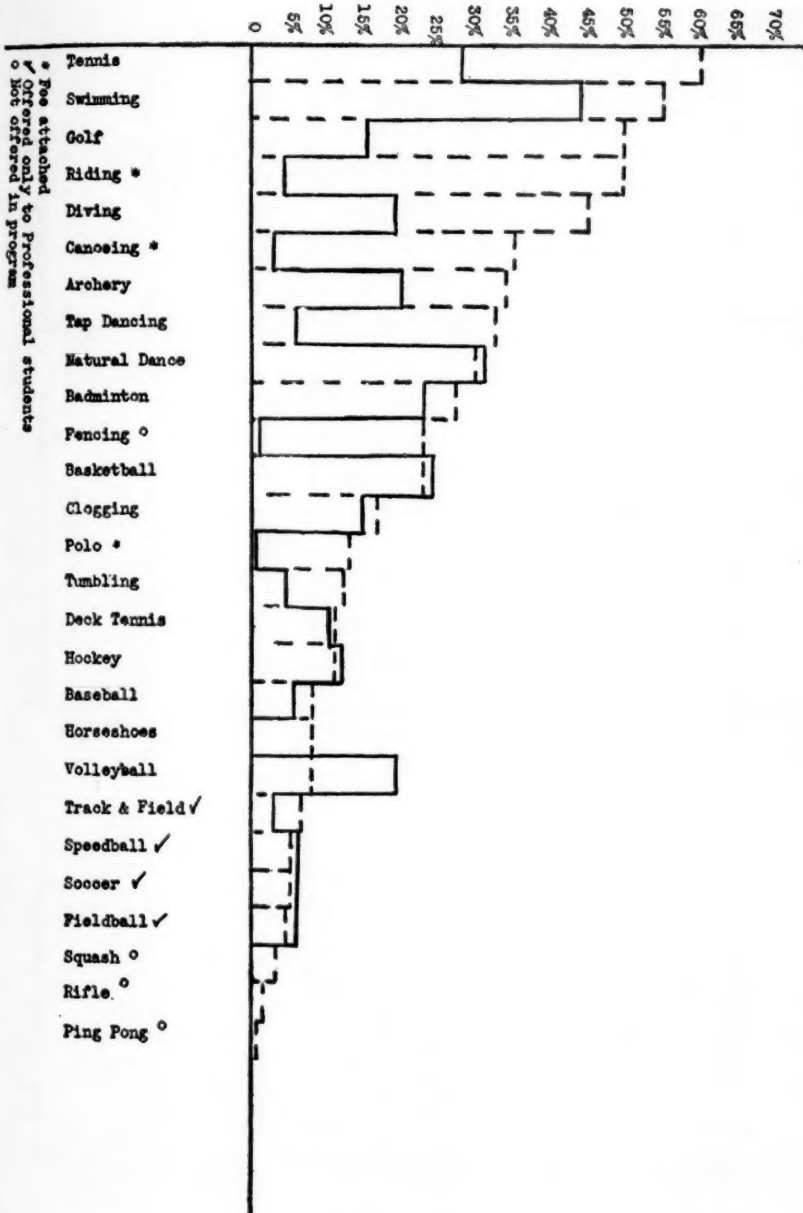
CHART I

Total - 436

CHART II.

Activities Would Like to Learn or Improve In. ---

% Students Who Have Taken These Activities. —



\* Fee attached  
 ✓ Offered only to Professional students  
 ° Not offered in program

CHART III.

Trend of Interest in Outstanding Activities as Indicated by Desire to Enroll in Courses. No. of Cases 436. Mean --

1. Skills of entering Freshman. 2. Desires of entering Freshman. 3. Desires of Freshmen at end of first term.

4. Desires of Sophomores. 5. Desires of Juniors. 6 Desires of Seniors.

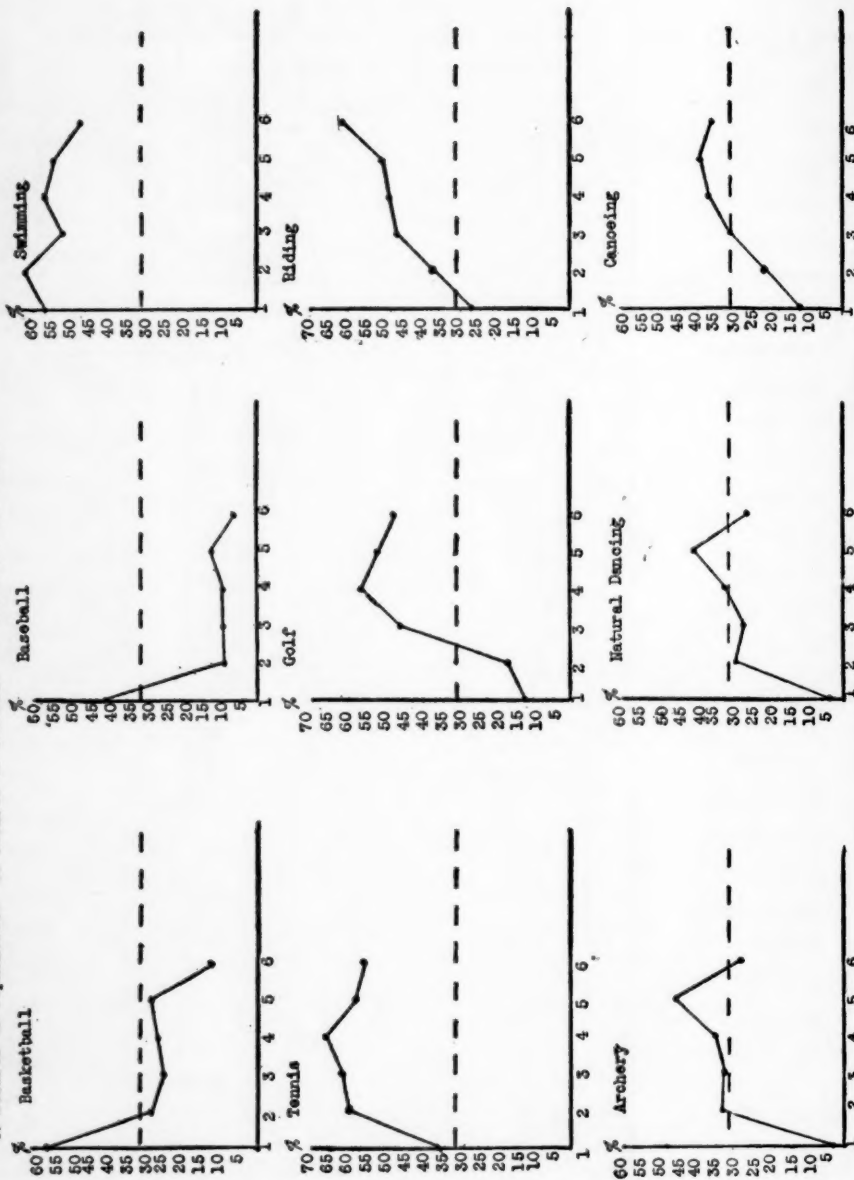
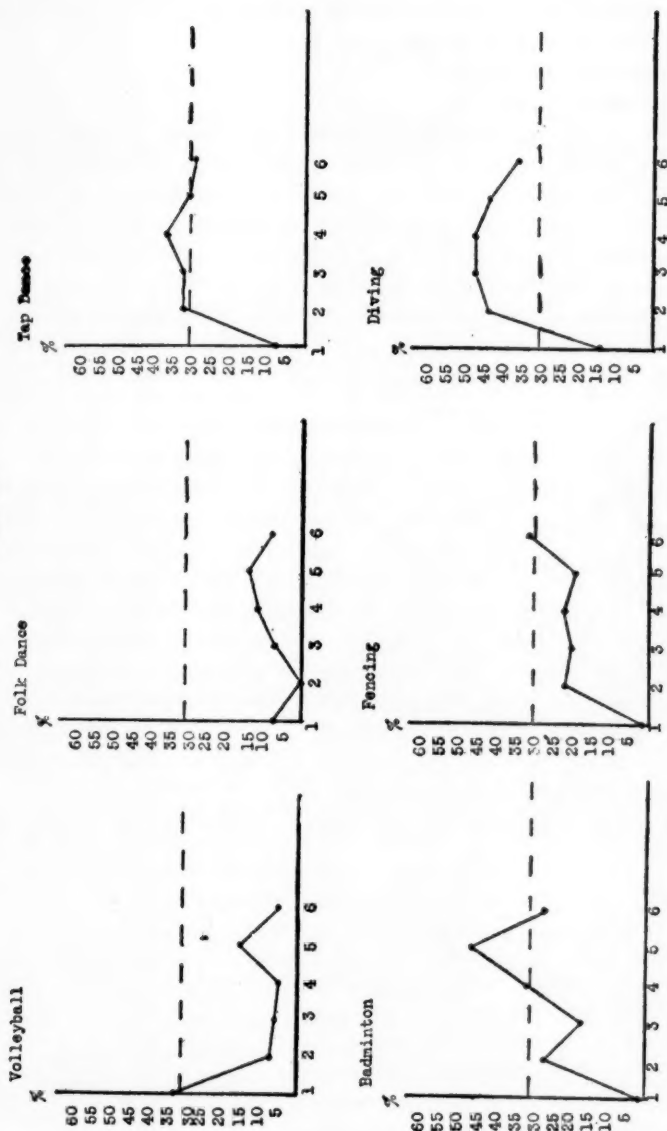


CHART IV.





1. Skills of entering freshmen.
2. Desires of entering freshmen.
3. Desires of freshmen at end of first term.
4. Desires of sophomores.
5. Desires of juniors.
6. Desires of seniors.

The charts show that during college the interest of women students in team games seems to go down while interest in individual games goes up. The trend is noticeably downward in basketball, baseball, and volleyball; is decidedly upward in golf, riding, archery, natural dancing, canoeing, badminton, fencing, and diving; is uniformly high in swimming and tennis; and uniformly low in folk dancing.

*Desirable Hours for Taking Physical Education.*—The students were asked to check the hour they would prefer to take physical education. The most popular hours were 11 A.M., 4 P.M., 3 P.M., 10 A.M.

#### CONCLUSIONS

If interest is used as a basis for program planning:

1. Many sections should be offered in tennis, swimming, golf, riding, canoeing, archery, tap dancing, natural dancing, badminton, and fencing.
2. Fewer sections should be offered in baseball, volleyball, and basketball. As long as these activities are well known upon entering college they might be offered in the extra-curricular recreational and intramural program for those who would like to continue participating in these activities but who would not care to take a course in them.
3. Clogging, polo, tumbling, deck tennis, horseshoes, track and field, speedball, fieldball, squash, rifle, or ping-pong probably should not be offered in a limited program although some of them might be offered in the intramural program.
4. Many courses should be offered at 11 A.M., 4 P.M., 3 P.M., 10 A.M.

# Effect of Water Polo on Blood Pressure and Pulse Rate

By W. P. ELHARDT and O. S. ORTH

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THIS paper is a report of the changes produced in pulse rate and blood pressure which occurred among members of the University of Illinois water polo squad during competition.

Perusal of the literature reveals no work done on this type of sport, although data has been reported on a number of other sports such as track, marathon running, and rowing.

In this investigation twenty members of the water polo squad of this university were used as subjects. Normal records of blood pressure and pulse rate were obtained preceding the game. After twelve minutes of play records were made again. Approximately 15 seconds of time elapsed from the time a man left the pool until his record was taken.

In Table I this data is shown. In the second column at the left is given the time of play of each subject. It will be noted that while all members of the squad were used as controls, only thirteen participated in the game, hence the first seven subjects served merely as controls and no time of play is recorded for them. Under the general heading "Normal" is shown the normal systolic and diastolic blood pressures and pulse rates. In the "Modified" columns are given the systolic and diastolic blood pressures and pulse rates of the thirteen subjects after the times of play indicated in the column at the left.

In table II are shown the changes in systolic and diastolic pressure and in pulse rate after the practice game.

It will be noted that the average systolic blood pressure of the 20 subjects before competition was 123 mm. Hg and after the various times of competition that it had increased to an average of 160 mm. Hg for the 13 participants. The range before competition was 110-144 mm. Hg and after competition was 133-206 mm. Hg. Similarly the average diastolic blood pressure before competition was 76 mm. Hg with a range of 57-94 mm. Hg and after competition the average was 83 mm. Hg with a range of 64-100 mm. Hg.

The average pulse rate before competition was 68 times per minute, the range being from 57-76 per minute. After competition the range was 111-159 and the average was 128 per minute.

A survey of Table II shows that the changes brought about in the systolic blood pressure by the competition ranged from 12-94 mm. Hg

increase, the average increase being 38 mm. Hg. As for the diastolic pressure the variations were not so uniform, the range being from a -14 to a +13 mm. Hg with an average increase of 9.6 mm. Hg. Pulse rate changes all showed an increase, the range being 35-94 per minute with an average increase of 60.4 per minute.

No correlation is evidenced between the times of play and various changes, as some of the most pronounced increases are shown in the subjects with least time of competition, while as pronounced changes are also shown for subjects with greatest time of competition. In the four subjects showing a decreased diastolic pressure the same relationship is true.

## SUMMARY

1. After various times of competition in a water polo contest systolic and diastolic blood pressures of 13 subjects were found to have increased above those of 20 controls by an average of 38 mm. Hg for systolic and 9.6 mm. Hg for diastolic pressure.

2. Pulse rate increases of the competitors averaged 60.4 per minute.

TABLE I

Subject	Time of Play	NORMAL			MODIFIED		
		Systolic Pressure in mm. Hg.	Diastolic Pressure in mm. Hg.	Pulse Rate	Systolic Pressure in mm. Hg.	Diastolic Pressure in mm. Hg.	Pulse Rate
A		110	75	75			
B		120	72	60			
C		124	70	64			
D		126	84	70			
E		144	90	64			
F		136	94	74			
G		120	74	67			
H	12'00"	126	76	72	190	96	112
I	12'30"	144	90	72	168	76	156
J	12'45"	118	68	57	180	100	120
K	13'15"	120	70	63	157	82	112
L	13'50"	110	57	65	206	90	114
M	14'15"	130	70	68	154	86	126
N	15'00"	110	70	74	140	82	150
O	15'15"	114	67	76	133	64	120
P	15'45"	134	70	62	154	76	111
Q	17'00"	123	79	64	174	70	141
R	17'45"	124	80	65	150	96	159
S	18'00"	122	86	76	134	92	111
T	18'30"	110	76	62	140	74	129
	Averages	123	76	68	160	83	128
	Ranges	110-144	57-94	57-76	133-206	64-100	111-159

TABLE II  
BLOOD PRESSURE AND PULSE RATE CHANGES  
FOLLOWING WATER POLO

Subject	Systolic Pressure in mm. Hg.	Diastolic Pressure in mm. Hg.	Pulse Rate Increase Per Minute
H	64	20	40
I	24	-14	84
J	62	32	63
K	37	12	49
L	94	33	49
M	24	16	58
N	30	12	76
O	19	-3	44
P	20	6	49
Q	51	-9	77
R	26	16	94
S	12	6	35
T	30	-2	67
Averages	38	9.6	60.4
Ranges	21-94	-14-+33	35-94

# A Camp Study

By HENRY S. CURTIS, *Ph.D.*,  
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THIS paper is a brief report of a study of the activities of the Ann Arbor children during the summer of 1934. It was made with the aid of a group of F.E.R.A. students and covers four activities: camps, trips, farms, and playgrounds.

The effective day of children during the vacation is not less than twelve hours long. In order to make results comparable, all these activities are studied on the basis of a twelve-hour day. As about nine-tenths of the travel is by auto, two hundred miles is reckoned as a day of travel. By the farm, we mean a summer sojourn there, as one would go to camp.

The questionnaire on summer activities was given out to the children of the upper grades early in September and sent home with a note with the children in the lower grades. From about 5,300 children, 4,711 acceptable replies were received. It is believed that the reports given are honest, though, of course, the children did not always remember everything they did. In a series of detailed investigations on specific activities at special schools, the questionnaire replies have been found to be understatements in every case.

Taking the 4,711 children as a whole, 651 of them went to camp during the summer for an average of 22.9 days. This accounted for 14,490 days for the summer, which, distributed over the 4,711 children, would give 3.08 days in camp for all the children. The following table shows how the time was distributed among the different activities.

## PERCENTAGE OF TIME GIVEN TO THE DIFFERENT ACTIVITIES

Farms .....	37.5%	Playground .....	15.1%
Camps .....	25.4%	Trips .....	21.9%

## PERCENTAGE OF CHILDREN TAKING PART IN DIFFERENT ACTIVITIES

Trips .....	47.5%	Playground .....	25.6%
Farms .....	24.8%	Camps .....	13.4%

The average attendance of the boys is 28 per cent higher than the girls in all the activities. In camps the boys go for an average 3.49 days, the girls for 2.89 days. The average is very low in the first four grades, but reaches its maximum in the sixth grade with an average for the boys of 4.66 days and 3.51 days for the girls. There is but slight decrease through the high school.

It is known that a considerable amount of the scout camping was not reported by the boys. Unreported camping would probably bring the numbers up to 700 or thereabouts. Camping, especially in the pri-



vate camps, has been much below normal during the depression. It is probable that during normal years not less than 800 children go camping from Ann Arbor each summer.

There are three types of camps represented in the report: the scout camp, the semi-public camp, such as the Y.M.C.A. and Y.W.C.A. camps, and private camps.

The scout camps were of two different kinds. The first type consisted almost entirely of patrol camps of boys with their scoutmaster, and lasted for one or two weeks. They were often nearby, and the boys went out to the site selected, usually on a river or one of the numerous lakes of this area, in private autos. As the scoutmasters were not paid there was no overhead. They either took their own food or bought it together, cooked it themselves, and lived in their own tents, so it cost them little if any more than it did to live at home. This type of camping comes within the range of nearly every boy of Scout age. It is one of the best types of camping. The boys already know each other and the scoutmaster, so there is little homesickness. It is often planned for two or three months in advance and talked over for a long time afterwards, so it is integrated with the year's program. Scouting has a good series of activities, encourages excellence through its merit badges, and a sense of service and hardihood.

The second type of scout camping from this area, is that in which a scout troop goes out with its scoutmaster for a trip of one or two weeks. These trips have been made both in trucks and private cars. The boys have been to the Adirondacks, through Kentucky and Tennessee, and in a circuit of Lake Michigan, including the World's Fair, and through Canada. The longest of these trips was over 1700 miles. The boys carry their own tents and camp where night finds them, and, as before, they cook their own meals. The expenses, including gas, oil, repairs, food, and all necessary costs, has been between five and six dollars a week.

The Y.M.C.A. and Y.W.C.A. camps have two classes of children often coming at different times. There are the so-called underprivileged, who usually pay nothing, and the others who usually pay \$7.00 a week. These camps suffer from two serious handicaps. The children come from all parts of the city. For the most part they are strangers, or nearly so. It is difficult for them to plan beforehand or talk things over afterwards. In other words, these camps are not an integrated part of the year's activities. Most of the campers stay for only two or at most three weeks—too short a time for training.

The Y.M.C.A. camp here also entertains the 4-H Clubs at the close of the Y.M.C.A. season for four days. This is about the only camp experience that most of the farm children of this area get, although they undoubtedly need the socializing influence of the camp more than city children.

The third type of camp is the private camp. The private camp has several great advantages as well as several disadvantages. It runs for a longer period, usually from eight to twelve weeks—long enough to offer real training. The charge varies from \$15.00 to \$60.00 a week, enough to furnish fine equipment and to pay competent counselors, but it may also suffer from a lack of connection with the rest of the year, and it may promote snobbery. The camp should promote the simple life, simple food, and a democratic spirit. Some camps are able to do this despite their charges, but they are of very different grades of excellence. There should be some authority to certify camps.

In this area, camping increases with the financial status of the district. Thus the highest average is in the University High School and Junior High, which charge a tuition and draw mostly from the families of professors and the wealthier group. The following figures show the distribution of their attendance over the four activities.

PARTICIPATION OF THE UNIVERSITY HIGH SCHOOL AND JUNIOR  
HIGH SCHOOL PUPILS IN FOUR ACTIVITIES

PERCENTAGE OF TIME GIVEN TO THE DIFFERENT ACTIVITIES

Camps .....	55.7%	Farms .....	17.5%
Trips .....	27.2%	Playgrounds .....	1.0%

PERCENTAGE OF CHILDREN TAKING PART IN THE DIFFERENT ACTIVITIES

Trips .....	51.4%	Farms .....	15.9%
Camps .....	31.5%	Playgrounds .....	4.5%

It will be noticed that the playgrounds are least used by this group, while camp occupies first place. The girls surpass the boys in all forms of recreation except on the playgrounds. Of the 308 pupils in the senior and junior high schools, 98 went to camp for an average of 36.86 days, a little more than 5 weeks; but of 268 pupils who replied to the special questionnaire on camps, 141 reported that they had been to camp for an average of 2.8 times and the average stay had been six weeks. This shows the effect of the depression in reducing the length of the stay. Of course the average is cut down by those who went to semi-public camps for 2-week periods.

We may divide the 308 children into 3 classes. Of this number 122 are children of the University faculty, 113 are from town families, and 73 are country children. Of these the country group has an average attendance in the four activities of 1.1 days. The town group has an average of 18.09 days and the University group an average of 24.61 days, which is the highest in the city.

The camp record of the girls is higher than that of the boys, 18 days in the junior high school and 19.5 in the senior high school. This is the average of the entire group including those who do not go.

The average price paid by the boys was \$22 a week. The average

of the girls was \$19. This group, however, is not enthusiastic about camping. In response to the question as to whether they would prefer to go to camp, to travel, or go to a farm or a lakeside cottage, 49 preferred to go to camp, 64 to travel, 31 to go to a farm and 105 to go to a lakeside cottage. Twenty-two said they did not like camp.

As to experiences liked best, 13 gave a long canoe trip, 10 an over-night hike, and 6 hiking in general. In making friends, 59 said that camping had helped and 27 said it had not. Forty-seven said that they continued to write to 168 of their campmates, which is good evidence of real liking. Forty-six said that camping had helped them in their school work and 28 said it had not.

This group is less enthusiastic about returning to camp than the farm group, but when we consider that they have been to all sorts of camps and that they have attractive alternatives, this is perhaps about what we should expect. There is within the group a considerable number who are very enthusiastic about camping.

In order to have a basis of comparison, another school was selected in the poorer section of the city, having about 20 per cent colored children, and in which nearly all the children who went to camps went on a welfare basis. Answers were secured from 166 children in the junior high school to the same set of questions. It appeared that 68 children had been to camp 132 times, or almost twice each. In their choice of summer activities, 55 preferred camp, 19 the farm, 38 travel, and 50 to go to a summer cottage. Of the 108 who answered this question, there was only one who did not wish to go to camp. Fifty-four said camping had helped them to make friends and only 2 said it had not. Twenty-six of the children continued to write to 85 of their campmates. As to which activities were most valuable, 36 said camp activities were, 41 favored travel, and 15 the farm.

#### AT THIS SCHOOL, 408 CHILDREN SPEND 3,948 TWELVE-HOUR DAYS IN THE FOUR ACTIVITIES

##### PERCENTAGE OF TIME GIVEN TO EACH OF THE FOUR ACTIVITIES AVERAGE TIME IN TWELVE HOUR DAYS, 9.6 DAYS PER PUPIL

Farms .....	40.0%	Playgrounds .....	22.0%
Camps .....	23.8%	Trips .....	14.2%

##### PERCENTAGE OF CHILDREN TAKING PART IN EACH OF THE FOUR ACTIVITIES

Trips .....	37.8%	Farms .....	29.4%
Playgrounds .....	36.5%	Camps .....	12.0%

There were two new questions intended to test the feasibility of the school camp under regular teachers. In answer to the questions as to whether they would prefer to go to camp with children from their own school or with others, 83 preferred to camp with children from the school, and 53 with others. As to whether they would prefer

to camp under counselors from outside or to have some of their teachers serve in this capacity, 87 said they would choose to have some of their teachers, while 41 preferred to have their counselors from outside. In order that this might be an honest answer and not a polite one, the children were not supposed to sign their names to their answers. Many made it plain that they would only choose some of their teachers.

Many of the first camps were on a welfare basis. The children were underprivileged. The intent was to give them an outing and get them off from the hot dangerous streets and away from slum conditions. The children selected were largely from broken homes. The period of these camps was usually one or two weeks, too short a time to be effective.

A second idea was health. For this purpose, undernourished, anemic, and pre-tubercular children were selected, but again as the period has usually been for only two weeks, the time has been too short to achieve any large, permanent results.

A third group of camps has been organized by the physical directors who have started most of the private camps. In the early days, some of them made small fortunes in that way. The camp has great advantages for most forms of physical exercise. But it has also many activities that are not physical. It is not obvious that the physical director as such is specially qualified to have charge of dramatics, nature study, and crafts. Furthermore, the children are quite as enthusiastic about the farm as they are about the camp. The camp should add the farm to its equipment and give every child a chance to have some farm experience. The one in charge of a camp should be of the type of a high school dean or a personnel worker.

We are coming to look upon the camp more as a social institution than a physical education opportunity. It is primarily a chance at communal living. Its most important opportunity is a training in friendship, cooperation, and independence. The best camps make "buddies" of the campers. This is what Christianity means and the sort of training that this age is going to demand in an increasing degree.

The two great and universal preparations for an age of leisure are many friends and a love of the open air. These two condition all other forms of recreation, and do not decrease with age. Most camps are more or less self-governing and offer a real initiation into government.

It is doubtful if the school year has any eight weeks that mean so much to later life as eight weeks in a good camp. The camp is primarily educational and belongs to the schools. Every child between the ages of ten and fourteen should have at least two or three summers of it.

It may be said the school could never afford to offer such opportunities, even for one or two summers, but if the school takes over the camp, with its most social-minded teachers as counselors, and pro-

vides a large garden where the children do most of the work and raise their own food, it should not cost much more than it does to live at home.

There will probably always be a place for the private camp, unless we turn communists, but the thought of this paper is that camping is an essential step in education, especially along the line of the social virtues and citizenship. As such it should be provided for all children. To that end it must be made cheap.



# Recent Changes in Student Teaching Curricula and Major Problems in Teacher Training at Forty-Three Institutions of Higher Learning

By C. O. JACKSON  
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THE difficult social and economic turmoil which our nation has struggled through the past five or six years has brought about a number of significant changes, particularly in the field of education.\* Some of these changes, such as the curtailment of budgets, with a corresponding elimination of a number of subjects, have been definitely harmful. A few, however, particularly those pertaining to a closer scrutiny of subject matter and methods of teaching, and especially the attempts to justify them, have been definitely worthwhile.

The major question now being asked in education is: "Are the schools adequately preparing young people for living in modern America and the modern world?"<sup>1</sup> The more recent changes, particularly in curricula and methods, come as a direct attempt on the part of educators to answer this question. The schools are being re-evaluated in terms of the aims and objectives sought, the teaching technique or methods employed, and the goals actually reached. This thorough consideration is still being carried on at all levels of instruction, and the result can only be better teaching, better schools, and better-trained graduates.

The field of physical education has also felt the impact of the many socio-economic forces, and leaders here are carrying on much the same type of program, particularly on the secondary level, with many of the same splendid results. According to Everett, the problem also involves the preparation of teachers, as he states "it is absolutely essential that teacher-training institutions . . . raise fundamental questions . . . and seek to evaluate the old and new ways of living found in American life . . ." He continues by saying that "teacher-training institutions have recently been too concerned with the teaching of narrowly-conceived techniques of statistics and method, with mechanically effi-

\* Report given at the Teacher Training Section, Mid-West Society Meeting, Milwaukee, Wisconsin, April, 1935.

<sup>1</sup> Samuel Everett. Talk given before the Chicago Mathematics Club, October, 1934.

cient administrative procedures, and with the inculcation of traditional subject matter . . ."<sup>2</sup> Recent studies in the preparation of teachers<sup>3</sup> and other curriculum studies<sup>4</sup> show definite trends in the field, and almost every worth-while teacher-training institution in the United States has made some noteworthy improvement. It was in an attempt to learn what these changes were in physical education and the problems which each school was meeting and solving in that field that this study had its inception.

Four years ago the writer was fortunate enough to correspond with the authorities at seventy-eight colleges, universities, and normal schools, and through a questionnaire study received definite information concerning what was actually being done in their teacher-training programs.<sup>5</sup> This same group was used as a nucleus for the present study. The response was particularly gratifying as forty-three, or more than 55 per cent responded. The majority who answered not only wrote personal letters but also included samples of many of their materials of instruction.

The letter sent to seventy-eight teacher-training institutions follows:

DEAR SIR:

Several years ago you were kind enough to cooperate with the Bureau of Research and myself by assisting in a questionnaire study, "Student Teaching and Supervision in Physical Education."

I am at present beginning a study of "Current Problems of Student Teaching in Physical Education," and knowing your interest in the field I hope that you may again be willing to help. The material which I may accumulate during the next month or two will form the foundation for a discussion at the annual meeting of the Mid-West Society of the American Physical Education Association, next April.

This study is not a questionnaire survey, but you may help a great deal by indicating first, any changes which you have made in your student teaching and supervision within the past two years; and second, your chief problems at present and how you are solving them.

I would like to suggest the following as a number of the problems here at the University of Illinois which may give you a clue to the type of information desired:

1. Making teaching assignments to meet individual needs and abilities.
2. Developing critic-teacher attitudes on the part of all members of the staff.
3. Securing worth-while conferences.

<sup>2</sup> Samuel Everett, *Democracy of the Future*, (New York: Columbia University Press, 1935), 194-5.

<sup>3</sup> C. L. Brownell, "The Present Status of Professional Preparation of Teachers in Physical Education," *RESEARCH QUARTERLY*, III, May, (1932), p. 107.

<sup>4</sup> N. P. Neilson, "Report of Committee on Teacher-Training in Physical Education in the United States," *RESEARCH QUARTERLY*, IV (March, 1933), p. 51.

<sup>5</sup> C. O. Jackson, "A Study of Current Practices in Student Teaching and Supervision," *RESEARCH QUARTERLY*, III (March, 1932), p. 152.

4. Developing an accurate and objective method of grading.
5. Building professional attitudes among the student teachers.
6. Developing a course in Methods.
7. Supervision and administration of student teachers outside the laboratory school.

Please indicate the number of student teachers in Physical Education.

You can assist in making this study worthwhile by contributing definite information concerning your own arrangement and problems, and by sending it to me in the near future.

Thank you.

Very truly yours,  
C. O. JACKSON, Supervisor.

As will be seen by reading the letter, no attempt at formulating a questionnaire and making such a survey was attempted. However, in order to give the various teacher-training groups some idea of the type of answer desired, a number of the problems encountered in one of the large mid-western universities were listed. In this short paper it will not be possible to discuss each item, but all those mentioned are listed, and those mentioned more than once, or seemingly deserving of special attention, will be discussed more fully.

The present study, which originally was intended to be a survey of problems encountered in the various teacher-training institutions, apparently became a study of the recent changes in the curricula there. However, it should be evident to the reader that many of the changes reported in the following tables as occurring during the past three or four years, are but additional outward manifestations of the general unrest in education, and represent a consciousness of specific problems and specific attempts to solve them. Consequently, while both recent changes and present problems are considered, it must be understood that the one represents problems already solved at some institutions, and the other, difficulties which must still be dealt with.

TABLE I  
NEW REQUIREMENTS

1. Raised credits in student teaching from six to eight, and increased the hours accordingly.
2. Requirement in student teaching changed from eight hours to six, and is now eight hours again.
3. Selection of students at the end of junior year, on the basis of scholarship, personality, character, personal appearance, health, etc., and these are the only ones permitted to do student teaching.
4. Established student teaching under the supervision of the Department of Education, with the Department of Physical Education directing its own students.
5. Required student teaching for the first time in ten years.

Perhaps the most significant change reported as far as the new requirements are concerned is the attempt on the part of several institutions to make a selection of the students who may participate in the teaching experience. This is done at the end of the junior year, and with the assistance of the entire faculty; a definite attempt is made to grade each student. Whether this is done by the use of a fairly inclusive rating scale, or whether it is merely based on the subjective likes or dislikes of the various instructors is not clear. However, with the apparent oversupply of teachers, it does seem necessary to limit our qualified graduates to those individuals, both in personality and scholarship, who already show definite promise. While this plan has definite merit, it may be advisable to "do our weeding out early," and not wait until the junior or senior years. Perhaps a combination plan including more strict entrance requirements, physical examinations, motor ability tests, personality inventory, intelligence tests, and a yearly rating by all members of the faculty would be even better. Certainly a final evaluation should be made not later than the junior year.

TABLE II

## NEW TEACHING SITUATIONS

1. Place student teachers in high school classes as squad leaders the first three years, before teaching, in order to familiarize them with actual class procedure.
2. Four or five seniors are in complete charge of the program in the high school.
3. Student teachers are getting considerable experience coaching club teams, officiating games, and conducting tournaments at several high schools.
4. Added new facilities so there is opportunity for choice of teaching situations. (Class instruction, playground, coaching, etc.)
5. Require teaching on the college level because the secondary facilities are inadequate.
6. Require all work in directed teaching on the college level because of lack of cooperation on the part of the high school authorities, and because of lack of teaching personnel at the college.
7. Expect to have the department responsible for the program in a small high school and plan to run it on an "internship plan" beyond the senior year.
8. Expect to arrange for juniors to earn part of their credit assisting the regular staff members on the college or university level.
9. Added a practice or experimental school which is strictly modern and was planned with the problems of student teachers in mind.

One of the schools reports a plan whereby the student teachers are placed in the local high school as squad leaders for a period of three years in an attempt to make them familiar with the routine of class procedure so they may do better work when engaged in their student teaching in the senior year. This plan undoubtedly attains its

objective, but might perhaps be difficult to use in a larger institution because of the existing schedules of students, and the larger number enrolled in the course. Perhaps one reason for its success is that the school mentioned had only five student teachers and but twelve enrolled in the professional curriculum. This plan also brings up the question of attempting to develop leadership among the high school students and perhaps defeating this aim by creating a more or less permanent corps of leaders from the college.

Several of the schools are making distinct attempts to place the experience in the teaching act on a more practical "on-the-job" basis, and report that several of their better seniors are given full charge of the program at the high school. One of the schools in the Middle West expects to inaugurate a plan whereby teaching on the "internship plan" on a graduate level will be carried on, and a five-year course required. Several graduate students will be in charge of the program in a small high school, under the direct supervision of the university department. With the present emphasis on better and more thorough training for prospective teachers, and the necessity for actual experience under field conditions, it becomes more and more evident that this is a step in the right direction.

Lack of cooperation on the part of certain authorities, and inadequate facilities on the secondary level have made it advisable for several colleges to transfer all of their teaching experiences to the college level. This is to be regretted, as experience in the high school is highly desirable for a number of reasons, the most important of which is the fact that the great majority of graduates who secure positions will spend part or all of their teaching in the secondary schools.

It is particularly pleasing to learn that one school, at least, has a laboratory school designed primarily for the use of student teachers. The many who must attempt to carry on worth-while programs under the most difficult conditions cannot help but be somewhat envious.

TABLE III

## NEW COURSES

1. Developed course in methods stressing the "problem-solving concept" with Education Psychology, Secondary Education, and Technique of Teaching combined.
2. Student teaching begins in the sophomore year with a course in "Community Play and Leadership" which involves actual teaching in community centers.
3. Combined a practical teaching period with the methods course.
4. Introduced a class in Social Recreation for men and women majors which gives an opportunity for leadership training.
5. Supervisor now teaches a new course to majors in the Technique of Teaching at the time they take their first student teaching.



It is apparent from the material in Table III that there is definite dissatisfaction with many of the traditional courses as they are taught at present. At least two universities are now teaching a combined course for their majors, consisting of material from the more commonly required courses in education, such as Education Psychology, Principles of Secondary Education, and Technique of Teaching. The "problem-solving concept" is stressed at all times, and specific application made of the necessary principles when a situation, either in actual practice of teaching, or during an observation makes this advisable. Another institution has a new course in Technique of Teaching which the supervisor of student teaching conducts with all beginning student teachers enrolled. The whole program is correlated with the activities at the laboratory school, and by means of specific problems, numerous observations, and pertinent discussions, definite progress is made toward indicating many teaching problems and some of the practical methods of solving them under certain situations. Additional observations and other assignments give the student teacher some knowledge of the teaching of his minor subjects as well.

Too little opportunity is provided for such classes as the one mentioned in Social Recreation. Social relationships of this kind are particularly worthwhile, and increased cognizance must be taken of the fact that men and women and boys and girls must live together in this modern society. Surely some preparation for life should include opportunity to play together and our graduates should be trained to give such opportunities to others later on.

TABLE IV

## MISCELLANEOUS CHANGES

1. Idea of students coming voluntarily to conference is stressed.
2. During the weekly conference, discussion is fortified by having the student teachers appear in uniform and teach assigned activities.
3. Minutes are kept of all problems raised at the conferences, the discussion and the conclusions reached. A copy of this is given to each critic and student teacher.
4. Students petition for definite teaching assignments a semester in advance.
5. Student teachers are in complete charge of the class for a whole week, near the close of each semester, in addition to other opportunities earlier.
6. At least five observations before actual teaching is required.
7. One more teacher added to the supervisory staff.
8. One person is now in charge of the student teaching, instead of sharing this responsibility, and is also in charge of the program in physical education at the laboratory school.
9. Revised the rating sheet so grading is more objective.
10. Modified the routine of making assignments.
11. Critic teachers at the high school are now doing much better work with the cadets than they formerly did.

In Table IV one school reports that minutes are kept of all conferences and discussions, and these are later distributed to everyone in attendance. This seems an excellent idea, although most of the readers have perhaps at some time or other attended discussions where such a thing would not only have been impossible, but perhaps undesirable as well. It does, however, indicate the desire to make a written memorandum of what took place, with the idea of perhaps devoting further thought and effort to the problems.

Another school makes the selection of the student teaching activity a worth-while experience in itself by requiring all students to petition for definite teaching assignments each semester before they desire to teach. The supervisor consequently has a rather definite idea of the number he will have to place the following semester, and the courses or activities which they prefer. More important, however, is the fact that it causes the student teacher to begin thinking about the next term's program, and in many instances, brings him in for personal conference and advice before making a selection. The same school reports better cooperation between the critic teachers and the supervisor now that the same individual is in charge of both the student teaching and the program in physical education at the laboratory school as well. A so-called "test week" is carried on when each student teacher, as far as is practical, has complete charge of the class in which he is doing his student teaching for a period of one week near the end of the semester. This is, of course, in addition to other experiences during the teaching period.

TABLE V

## PRESENT PROBLEMS IN STUDENT TEACHING

(The totals in parentheses indicate the number of times mentioned if more than once.)

1. Working out an accurate and objective method of grading (12).
2. Securing worth-while conferences (9).
3. Making teaching assignments to suit individual needs.  
Developing professional attitudes on the part of the students.  
Supervision and administration of teaching outside the laboratory school.  
Developing a course in methods.  
Providing suitable opportunities for teaching experience in high school.  
Developing critic teacher attitudes on the part of the staff members (5 each).
4. Correlating theories taught in courses with actual practice.  
Conflicting schedules prevent proper supervision.  
Utilizing academic observation and practice teaching manuals in physical education teaching (2 each).
5. Inadequate and hopeless teaching situations for students.  
Disciplinarian problem with high school authorities.  
Cooperation with other departments. (Could write a book on it.)  
More student teachers than teaching opportunities.

Working out a course in methods to fit a teaching situation eighty miles away.

Getting critic teachers to assume more responsibility.

Trouble with grading, and lack of coordination between observation and student teaching.

Trouble with State Department because they will not accept teaching credits unless the teaching is done in the local high school, where facilities, supervision, and administration are hopelessly inadequate.

Need supervision by the Department of Education.

Lack of supervising personnel; lack of coordination between college and high schools; and lack of adequate facilities.

Coaching idea is paramount, and not teaching.

Getting a variety of teaching experiences for student teachers, and stressing more actual teaching.

Accommodating colored teachers.

Keeping records.

Bettering the poor or mediocre teacher.

Stimulating adequate lesson planning.

Stimulating observations so they will become worth-while (1 each).

The preceding table indicates some of the more pertinent problems listed by a number of the schools in the study. The problem of grading is of great concern to twelve different schools, and whether considered a problem or not, is surely of some concern at the remaining institutions. In any situation where there are a teacher and a student involved, the question of ways and means of evaluating the student's progress and the worth of his achievements are bound to rise. It might be of interest to see some of the comments made in this connection.

1. Grading is a problem, and such things as personality, character, industry, technical knowledge, and social sense should be the important factors.
2. Rating blanks at mid-semester and personal conferences help.
3. Rating sheets are not so reliable, but at the present time there seems to be no better way. Expert supervisory analysis is valuable, and the entire basis should be a "pupil-teacher" relationship.
4. A student is either a good teacher, or unsatisfactory. If you find an accurate and objective method of grading, please pass it on to me.
5. A rating scale is used but it is believed that "passed" or "failed" is the best, plus an objective statement.
6. Grading is based on lesson plans submitted and on floor technique.
7. Objective methods of grading were a real problem, but dividing each class into small groups has simplified it.
8. Grading is done on the preparation of outlines, written and oral examinations, and subjective evaluation of actual work done.
9. It is felt that an objective method of grading is too limited an approach because ability is too closely wrapped up in personality, character, enthusiasm, and tact.
10. It is hardly possible to grade objectively, but we attempt it by using rating scales.
11. A written examination plus a practical exam furnish the grade.

12. A composite rating of the students by all staff members is a help.

13. There "ain't no such animal" as accurate and objective method of grading, because the personal equation must enter in.

We would all agree, in practice, at least with this last statement, but in theory, it is certainly necessary to get further away from the present subjective methods.

The general opinion seems to indicate that rating or grading scales of various kinds are used with some degree of success. Self-rating or evaluation by the students themselves is considered worth-while in a number of cases and certainly has merit if there is a follow-up program carried on by the supervisor. It is rather evident that as long as grades must be given, frequent attempts at grading, and the use of methods which are not entirely subjective would be helpful. Objective grading should not be considered in terms of a mechanical, easy, and fool-proof method for arriving at the correct value of a performance, or a semester's work, but rather as a scientific attempt to supplement, rather than supplant the teacher's critical and sympathetic judgment. The more grades based on pertinent items, which the supervisor can secure from a number of instructors for each student, other things being equal, the nearer the final grade may be to his actual worth.

Developing worth-while conferences is a live problem at five different institutions. A growing professional attitude on the part of the faculty should be of definite help. Considerable emphasis is placed on the idea of voluntary conferences where the students see the need for coming, and are not merely required to be present. At present, if all conferences were limited merely to those desired by students, the plan would only be possible with a small number of students, and the success of such a procedure would depend directly on the attitude of both the instructor and the student.

Professional attitudes on the part of the students are "caught, not taught," according to one reply, and this seems to indicate that the responsibility is one of the entire faculty. The inference is, of course, that this group, by their teachings, and particularly by the example they set, may change or develop student attitude. Other methods used with success at a number of schools are student organizations such as Phi Epsilon Kappa, Delta Theta Epsilon, and others. One of the instructors at a mid-western school<sup>6</sup> organized the first student chapter of the American Physical Education Association last fall, and at present more than half the freshmen, and many of the upper classmen, are members. This promises to be a great help in developing the proper professional attitude, although some selection of students before matriculation would also help.

Five schools indicate that "developing professional attitude" on the part of the critic teacher is a problem. This is probably of concern

<sup>6</sup> H. D. Price, University of Illinois.

at many more institutions, because, in most instances, the course in physical education as it came into existence has simply been made an addition or an appendage to the existing curricula. The result has been that certain teachers are required to act as critics, not because they are interested or qualified for such duties but because they happen to be on the staff at that time. The result is, all too often, little or no attention to the needs of the student teacher, and more concern for the amount of work which he can accomplish for the instructor than a sincere desire to help him become a better teacher. The following comments indicate the attitude of some of the staff members at one school. The question asked was "What is your reaction to the student teacher?"<sup>7</sup>

1. O.K.
2. Helpful, friendly as a co-worker.
3. I consider that I have two classes at the same time, i.e., the regular class, and the student teachers. Of these two groups I consider the student teachers the more important.
4. Profound pity. Why can't the poor devils learn to teach while taking their activity courses, as well as learn skills?
5. Good. I think that it is an opportunity to do the student teacher a great deal of good, and feel that he can help the instructor in more than one way. His presence keeps the instructor on the alert, and he may also suggest or bring up good points.
6. I consider them helpful. I don't like the attitude of several staff members concerning student teachers; they were students themselves once.
7. Student teachers are the junior members of our firm. We were all beginners once ourselves. If we make the right type of suggestions and offer the right kind of guidance, they will profit and become a credit both to us and to the profession.
8. Favorable. We must give them every opportunity possible while they are helping in our classes. What they do after leaving school will reflect directly upon us. Let us do our weeding out early and not by grades alone.
9. Most of them are a necessary evil. A very few are first class assistants.
10. The most important responsibility for us in the whole profession of physical education.
11. Appreciate their help very much. Think they are, as a whole, a fine body of men.
12. Student teachers are having their only experience in the fields which will later be their profession. It is a real responsibility for us.

The preceding comments indicate rather definitely that in the group questioned, ten of the twelve are aware of their responsibilities as critics, and the proportion is probably similar to that in other institutions. As far as the two who are frankly antagonistic, or at least unsympathetic to the training of teachers, if it involves any effort on their part, there are apparently only two things which can be done.

<sup>7</sup> H. D. Price, unpublished Study on Methods.



One way is to educate them to the trend of the times, and develop professional mindedness, and if this fails to secure the desired results, place the student teachers elsewhere under more sympathetic critic teachers. Frankly, the writer is of the opinion that the second is the only solution in all too many instances.

All persons who have had any experience in cooperating with other departments and attempting to secure their help and understanding as well, can sympathize with the individual who reported that he "could write a book about it."

Those in the field of physical education, by their conduct, their research, and their friendly association with the rest of the faculty, can do a great deal to help change this attitude. A growing realization by most thinking people of the importance of physical education as a part of leisure-time activity is also helping to bring this about.

TABLE VI

## MISCELLANEOUS TECHNIQUES

1. Try to see each student teach at least once a week.
2. Majors who play on athletic teams are *not* excused from other activity classes.
3. Follow up graduates by visiting them in the field.
4. Give students opportunities in the activities they are weakest in.
5. Student teachers are placed in charge of schools in the surrounding towns for a period of eighteen weeks. They are observed weekly and come back one night a week for a course in Technique of Teaching.
6. Use an "observation and participation" course the second semester of the junior year; begin teaching the second half of the semester; subject matter organization is based on the integrating idea.
7. Emphasize giving the student teacher more responsibility, under proper supervision. The development of the individual teacher is the primary objective.
8. Philosophy is to set them in situation as near to the actual job, with all its problems, as is possible.
9. Use the idea of evaluation of self and teaching for all student teachers.
10. Student teachers fill out self-rating teacher scales twice a semester.
11. Suggest the possibility of having a year of theory and activities, six months teaching in the field, and another year of theory and activities.

In Table VI, one of the most important listed and the one most often neglected, is the "follow-up of graduates." In too many cases, once a student graduates, he literally disappears from sight, and nothing further is known of him unless he returns for brief visits or writes inclosing clippings indicating his success. Occasionally, an active placement bureau attempts to keep in continuous touch with all graduates, but usually most of them confine their efforts almost entirely to an attempt to secure positions for the present graduating class. One California school reports that they keep in touch with their graduates, at

all times, both by personal correspondence, and by writing to the principals and superintendents where these men are employed. In addition, someone from the placement bureau visits all graduates "in the field" wherever possible. Some schools arrange for special conferences in the form of annual or semi-annual get-togethers where the recent graduates can meet with their old teachers and others for a "short course" and also discuss their problems. All of these things should be a real challenge to every institution attempting to prepare teachers, for while the training of the individual is, of course, extremely important, the need for assisting that individual to be successful in his teaching should be of greater concern.

The present study brought out a number of interesting things but the most important was the fact that many changes had been made, or were being made in the various teacher-training institutions in a definite attempt to meet the challenge of a new education. Four different schools in widely separated sections of the country stated that "your problems are our problems" (referring to the problems listed in the initial letter) so it must be apparent that most of the changes as well as the majority of the problems are not of a local or sectional nature. Perhaps the most encouraging thing was the knowledge that many individuals were interested in the same problems, and earnestly seeking solutions for them. Surely definite progress toward a better teacher-training curricula must come from such an attitude, and the future holds real promise!

# The Application of Testing to Determine the Physical Fitness of College Women

By IVALCLARE SPROW HOWLAND,  
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*Battle Creek College, Battle Creek, Michigan*

**B**ATTLE CREEK COLLEGE has as one of its basic principles the promotion of an ideal it calls "The Aristocracy of Health."\* It maintains, too, another ideal which is somewhat unusual. Under Dr. J. H. Kellogg, the College has developed a thorough-going measurement program to insure the realization of our aim to conserve health.

This health-testing program has become one of the College's most effective means, not only of promoting the actual physical fitness of our college women, but also in establishing finer concepts of healthful living for all of us.

The testing program includes various items:

1. We supplement medical examination first by the Kellogg Strength Test,<sup>1</sup> which includes lung capacity and twenty-five individual strength tests, using the Kellogg Universal Dynamometer, as well as the usual static measures of height, weight, girths, etc. For each strength test the relation of the individual score to normal is computed and these scores are charted in graphic form. These graphs are excellent indicators of muscular condition in relation to body stature and maturity. To give these tests requires about an hour for each student. They are given twice each year by trained student technicians.

2. Once yearly a shadowgraph or silhouetteograph is taken of each student, except during the Freshman year when two are taken. These silhouettes are analyzed and certain ratios determined, which have relatively little significance scientifically, but are very valuable as motivators in teaching body mechanics.

3. As often as interest or need requires, footprints are taken using the Scholl Pedograph Machine. Students make their own footprints and analyze them.

4. A subjective examination of the back is made to discover spinal curvatures and other bodily conditions. These observations are made several times annually.

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\*A paper presented before the Tests and Measurements Section at the American Education Association Convention, April, 1935, at Pittsburgh, Penna.

1. John Harvey Kellogg, *The Value of Strength Tests* (Battle Creek: Modern Medicine Co.)

5. Inasmuch as the Kellogg Strength Test is entirely too time-consuming for examiners, and too tedious for students to take, the P.F.I. battery has been added this year as a supplementary test of physical fitness.<sup>2</sup> The P.F.I. tests have been given this year six times and in groups of two series. The tests were given as near eleven o'clock in the forenoon as possible and were administered by the same testers. This makes for higher reliability. Next year we will give nine tests in three groups. The first series of the three complete P.F.I. tests are to be given in November, the second in January, and the third in March. These tests were given to each student with relation to menstruation. The first test was given immediately preceding menstruation, the second immediately following menstruation, the third two weeks following the second test. These periods were chosen to determine the relation of the P.F.I. tests to changes in bodily condition. (We wanted to discover whether claims made for P.F.I. tests were valid for girls and women as well as for boys and men.)

Inasmuch as the remainder of this paper is devoted to the P.F.I. tests and results, it may not be out of place here to report that we have found this battery to be rather extraordinarily significant and helpful to students as well as to instructors. For several years, it has been apparent that a simpler, cheaper, more rapid and more easily-administered strength test than the complete Kellogg battery should be given our students at frequent and definite intervals. The P.F.I. battery fulfills our needs, for it is very sensitive to practically every change in the girls' physical condition. Besides, since our girls have taken these tests, they have become conscious of the relation between their physical fitness and their general efficiency. This concern is reflected in the intense interest they manifest in the frequent checks secured through the tests.

This procedure of constantly measuring physical condition enables the student to realize how important it is to eliminate outside drains and strains. For she now realizes not only that the activities of living require muscular strength but also that anything which reduces strength curtails her capacity for work, study, or play, and even in proportion as strength is reduced so is capacity to enjoy life or to perform services for others reduced.

Before reporting results in detail, one other step we took at Battle Creek must be outlined. Before each P.F.I. test was given the student filled out a questionnaire concerning the presence at that time of headache, backache, colds in the head, constipation, hypertension, sleeplessness, worry, fatigue, appetite, feeling of depression, irritability, spiritlessness, and dysmenorrhea.

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<sup>2</sup> Frederick Rand Rogers, *Physical Capacity Tests* (New York; A. S. Barnes and Co., 1931.)

## RESULTS

The results of our use of the P.F.I. tests may be reported in several ways. Let me give you, first, some statistical and analytical observations, and second, more general observations.

1. We have complete records for 91 girls ranging in age from 18 to 24 years.

2. The average gain in strength from the pre-menstrual period test to the post-menstrual period test, was approximately 12 per cent for students who were not otherwise ill in the meantime.

3. The average gain in strength from the post-menstrual test to the mid-month test was 19 per cent for students who were not otherwise ill.

4. The average loss in strength between the mid-month period test and the pre-menstrual period test was 15 per cent for students not otherwise ill in the meantime. Thus it appears that girls and women are weakest physically just before the menstrual period begins. Thus strength increases as the period progresses. It appears, too, that the mid-month period is one of greatest physical power.

5. Further statistical analyses of data will doubtless yield much of significance. We regret only that time has been lacking to prepare such an analysis for this report.

Among the more general observations, the following are offered.

1. In most cases where a strength score lower than the post-menstrual test score occurred at the mid-month test, a reason could be found in the students' subjective report of her physical or psychological status. Or to put the case otherwise, usually when a student reported a strain or a drain, whether physical or psychological, the strength score at the mid-period test was lower.

2. In most of the cases of lowered scores when the student failed to report herself to be suffering from any drain or strain, a record of illness could be found in the College Physician's office.

3. Participation in extracurricular activities involving interscholastic competition, working one's way through college, and semester examinations frequently accounted for declining scores from month to month. These results are of the greatest significance to us at the college, for they indicate that many of our girls are over-worked, and they serve to strengthen the theory that our academic program should be spread through five years instead of four years for those girls working their way through college.

4. Our study of the relation of changes in strength to the presence of physical or psychological drains convinces us that the P.F.I. battery is an invaluable measure of girls' physical fitness.

5. Moreover, it has proved to be an extraordinarily potent motivator of interest in one's own physical condition. Practically every student was intensely interested in the results of his tests and anxious



to eliminate handicapping conditions. In fact, to my knowledge not a single student failed to be so stimulated.

6. It is apparent from our study of menstruation that strength tests will be of increasing significance to the medical profession as well as to physical educators.

7. We recommend that, when possible, the P.F.I. battery test be given at fairly frequent intervals. The value to girls is not much greater in discovering their condition and providing thereby a starting point for corrective procedures and measurement of improvement than in its value as a motivator. Thus, these frequently applied physical fitness tests are offering a highly significant health inventory for each woman student at Battle Creek College. They are thereby, furthering the physical welfare of each individual toward a finer development of and relationship between her social, mental, and physical states.

8. It must be apparent from our study of the effects of menstruation that, when tests are made for classification purposes in physical education classes, the P.F.I. for girls should be determined during the post-menstrual period and not within a day or two (at the closest), from the onset of menstruation.

# Knowledge Test on Source Material in Physical Education Including Aspects of Health Education and Recreation

A SELF-APPRAISAL FORM FOR TEACHERS AND A STUDY GUIDE FOR STUDENTS

By ALICE ALLENE SEFTON

THE primary purpose of the test is to create interest in a working knowledge of source materials in physical education.\* The items have not received values according to their actual worth; but have been weighted in terms of what, in the opinion of the writer, the individual should know. For example, Question 1, Section XV, receives the highest possible rating, 15 points, because knowledge of this source (National Physical Education Service) is of inestimable value to anyone interested in the field of physical education. Therefore, in judging and weighing the items, one important criterion was the potential usefulness of the particular source material to teacher or student having a major interest in physical education, health, or recreation.

## KEY

Check in "Yes" or "No" column each item. When you have finished, score your whole test by indicating in the "Yes" column the value of each item, and add. The result will be your final score.

It may be of interest to re-score the test by adding a separate score for each subject heading. Divide the result by the total score that is possible under the subject heading, and you will have the percentage of your score in that section. Thus you will be able to determine your comparative strength or weakness in this particular area.

## I. ABSTRACTS

DO YOU KNOW:	Yes	No	Points	30
1. Whether in physical education we have any abstracting publication which summarizes articles or books?				10

\* For answers to many of the questions, see: Specific reference: Alice Allene Sefton, "Guide to the Literature of Physical Education, with Aspects of Health Education and Recreation," *RESEARCH QUARTERLY*, VI (December, 1935) p. 3.

General reference: Carter Alexander, *How to Locate Educational Information and Data*, and *Alexander Library Exercises*, (New York: Bureau of Publications, Teachers College, Columbia University, 1935) 272 pp.

Do You Know:	Yes	No	Points	30
2. Two abstracting journals which treat specific phases in the field of health and physical education?			6	
3. What periodical in a special field has outstanding abstracts which are helpful in the phases of health and physical education?			4	
4. If there is a definite service offered in physical education where epitomes of leading books and articles are often found?			5	
5. If the abstracting service, "Education in Lay Magazines," by the National Education Association, includes digests of articles in physical education and health?			5	

II. BIBLIOGRAPHIES

Do You Know:	Yes	No	Points	135
1. The three most helpful sources to consult in the early stages of compiling a bibliography?			9	
2. What published list of approximately twenty books covering the field of physical education you would recommend as the foundation for a library?			15	
3. Where you can find a similar list for play and recreation?			5	
4. The most comprehensive bibliography of health and physical education in the United States?			15	
5. The reference book prepared for college libraries that would aid in the selection of books in the field of physical education?			3	
6. What bibliography in physical education appears regularly every year?			15	
7. Whether the A.P.E.A. has any plan for a comprehensive, cumulative bibliography to come out at regular intervals?			2	
8. What extensive international bibliography of physical education has been published covering references from Spain, Germany, England, and America from earliest times to the present?			4	
9. The several bibliographies, which, if taken together, would include references from the beginning of physical education in America up to the present day?			4	
10. Six comprehensive bibliographies which have appeared in book form on specific phases of physical education, health and recreation?			12	

Do You Know:	Yes	No	Points	135
11. Four bibliographies that have appeared recently as leaflets, booklets, or other printed forms?			8	
12. Three national organizations which, as a regular service, publish current bibliographic material?			9	
13. The catalogs or annuals which are helpful in keeping up to date on specific aspects of field: equipment, visual aids, school buildings, and grounds?			6	
14. Any bibliography which chronologically gives the literature of health education, and helps trace this movement as it developed in the American school system?			1	
15. Four comprehensive bibliographies that you feel need to be published in the field of health, physical education, or recreation?			4	
16. Where you can send for bibliographies on health, revised yearly?			5	
17. What two magazines outside the field regularly publish in November and March selective current annotated references in physical education; and in January of each year compile references in all the subject fields and publish these in book form?			15	
18. Whether there is an annual list of publications on handbooks and guides to sports, and if so, who prepares this list?			2	

## III. BOOK REVIEWS

Do You Know:	Yes	No	Points	45
1. In physical education and health, where to find the most critical, exhaustive book reviews?			10	
2. How rapidly the reviews come out after the book is published in sources you consult?			3	
3. What magazine has a yearly summary of book reviews in health, and when it appears?			5	
4. What magazines index their book reviews by author as well as by pages?			2	
5. Where you could locate a review of an educational book if you knew only the name of the author of the book?			15	
6. What magazine to consult for the best book reviews in the field of recreation?			4	

Do You Know:	Yes	No	Points	45
7. What is a helpful index to locate book reviews of a more popular nature and how they are listed?			3	
8. Whether there is a book review digest that gives excerpts of books reviewed?			1	
9. What magazine always has signed book reviews on health?			2	

IV. DICTIONARIES AND ENCYCLOPEDIAS

Do You Know:	Yes	No	Points	20
1. If there is a Miscellany that may be referred to in organizing historical pageants?			4	
2. What "Dictionary of Dress" has been published?			3	
3. An encyclopedia of sports and games?			4	
4. At least three dictionaries or encyclopedias in relation to your work in music, medicine, dancing, health?			9	

V. FOUNDATIONS

Do You Know:	Yes	No	Points	30
1. What foundations have made the greatest contributions to physical education in its various phases?			10	
2. What the nature of these contributions has been?			5	
3. Whether "physical education" is indexed as such in any directory of foundations?			6	
4. How valuable the yearly reports of foundations are in giving information on physical education?			4	
5. If there is any helpful reference in finding the yearly sums spent by foundations?			2	
6. Where you would locate information on the nature of the work of the various foundations, headquarters, and names of officers?			3	

VI. GOVERNMENT AGENCIES

Do You Know:	Yes	No	Points	25
1. The name of the government department whose chief concern is with educational problems?			8	
2. Whether there is an official government source for information on health and physical education?			7	



Do You Know:	Yes	No	Points	25
3. The name and official title of the person who is in charge of the health and physical education phases?			5	
4. If there is any special pamphlet in which are collected laws, regulations, courses of study, and statistical summaries applying to health and physical education?			5	

## VII. HISTORY

Do You Know:	Yes	No	Points	70
1. Where you can locate a history of physical education in 5-20 pages?			15	
2. The shortest comprehensive account of health education?			15	
3. What is the most comprehensive history of physical education?			10	
4. The titles of comprehensive histories on specific phases of physical education?			10	
5. The titles of histories that have been published on health?			8	
6. Where you would be likely to find short histories of athletic games?			1	
7. Whether a comprehensive history of the American Physical Education Association has ever been written?			2	
8. If there is any museum which gives a visual history of the different phases of physical education?			4	
9. A history of the recreation movement?			5	

## VIII. INDEXES

Do You Know:	Yes	No	Points	100
1. What periodical index renders a unique service to educators in that its material is taken from all the leading educational magazines?			15	
2. How many supplements a year are issued by this index?			8	
3. The outstanding differences in types of materials specialized in by at least six current periodical indexes?			12	
4. Important steps in the historical growth and development of periodical indexes from the beginning to the present time for educational literature?			15	
5. How and under what headings to locate the most recently published courses of study?			3	

Do You Know:	Yes	No	Points	100
6. What index specializes in giving all possible subject headings for cross-reference on any topic?			10	
7. In what index you will find listed all the United States Office of Education publications and the National Education Association publications?			12	
8. What type of information is found in the Index of the Library of the Surgeon General's office?			3	
9. What index to consult for the most material on recreation?			6	
10. Where at least six of the leading magazines relating to physical education are indexed?			12	
11. What convenient Guide to Indexes has been written?			4	

IX. LISTS OF NAMES

Do You Know:	Yes	No	Points	60
1. Where you would find the name of the state official in charge of physical education?			6	
2. What directory gives the heads of all schools of physical education?			9	
3. Whether there is a book of biographical sketches on leaders in physical education and what period it includes?			1	
4. For how long a period the official national organization in physical education has honored leaders in the field?			15	
5. How often this list is published and where it appears?			5	
6. In what general directories the names of well-known leaders in physical education are to be found?			6	
7. Two new directories started in 1935 giving leaders born after 1894?			8	
8. Where you can readily locate biographical data on men of science?			4	
9. The source of current lists of dancers, with information on where their photographs and biographies may be found?			3	
10. If there is a printed membership list of health leaders published each year?			2	
11. How to locate the name of the official in charge of the National Physical Education Service?			1	

## X. NEWS NOTES AND EDITORIALS

Do You Know:	Yes	No	Points	90
1. Approximately how many pages are devoted to news notes in the official journal of health and physical education?			8	
2. Under what various headings are news notes regularly found in the above magazine?			15	
3. Which magazine regularly features Health Education Notes on personalities, happenings, innovations?			4	
4. If there is any source where a yearly summary of the progress in public health—outside of periodical references—may be found?			15	
5. The source, outside of magazine references, which furnishes advance news comment in the field of physical education and health?			10	
6. Where one may find a monthly calendar of athletics and sports events of every kind?			3	
7. Three magazines that make a regular practice of listing forthcoming educational conventions?			6	
8. What official magazine gives a résumé each June of important happenings in education for the academic year?			3	
9. Where you can find the approximate time when any national organization holds its meetings?			5	
10. What index always announces educational meetings in the first pages of each supplement?			5	
11. What is an authentic source for news notes on girls' athletics?			3	
12. The relative prominence given to editorial comment in the official journal of health and physical education and the nature of the articles?			4	
13. Where you would find the most inspirational editorials?			3	
14. Other related magazines where you might find helpful editorial comment?			4	
15. What magazines run additional features prepared by the editor?			2	

## XI. PERIODICALS

Do You Know:	Yes	No	Points	110
1. The changes of name that have taken place in the official periodicals in physical education and their dates of occurrence?			15	

Do You Know:	Yes	No	Points	110
2. What the official magazine is in public health?			5	
3. The titles of other general physical education magazines?			9	
4. Ten unofficial periodicals which exist, having specialized interest in physical education?			10	
5. Which directory conveniently lists all the magazines dealing with any one special aspect of physical education?			3	
6. If there is any directory or guide that has been written exclusively on periodicals in health, physical education, athletics, and sports?			15	
7. Whether the government publishes an educational periodical, and if so, does it treat phases of physical education, health, and recreation?			6	
8. Any specific service in the official periodical of physical education which has continued over a period of at least fifteen years?			7	
9. A magazine that includes an educational poster with each monthly issue?			1	
10. Which magazine of related interest has a policy of calling the September issue the School Number?			2	
11. Where you can find each year a list of summer schools, listed by states, in which public health courses will be given?			1	
12. Whether there are any free educational periodicals in the health field?			6	
13. A popular, scientific, educational, non-official health magazine?			3	
14. The official periodicals of eight national organizations, which offer help on specific phases of the health and physical education field?			8	
15. What is the nature and variety of the offerings of the leading periodical in recreation?			5	
16. If there is any one source where all periodicals published in the United States are listed?			4	
17. What new magazines have been introduced into the field within approximately the past two years?			2	
18. How you could find out where bound volumes of certain magazines are available?			2	
19. If there is any loan service or any service which furnishes photostated copies of articles from old periodicals?			2	

Do YOU KNOW:	Yes	No	Points	110
20. What national magazine announces the Sixty Best Books of the Year, certain ones of which are in the field of physical education?			4	

## XII. PROFESSIONAL ASSOCIATIONS

Do YOU KNOW:	Yes	No	Points	80
1. What official directory tabulates national associations?			5	
2. The source that gives the most complete write-ups of physical education, health, and recreation organizations?			5	
3. If you could make a complete outline of the work of the American Physical Education Association: its organization, membership requirements, purpose, and benefits available?			15	
4. If the American Physical Education Association is affiliated with the National Education Association?			2	
5. What two national organizations represent the "Joint Committee on Health Problems in Education?"			1	
6. What are the other associations that are affiliated with the American Physical Education Association?			8	
7. What are considered the official health organizations?			4	
8. What official international educational associations have "Health Sections" and what reports they have published?			5	
9. The organizations comprising the National Health Council that make definite contributions to health phases of school programs?			4	
10. What private promotional organizations offer free educational service?			10	
11. In recreation, what national organization officially represents this field?			5	
12. Four other national associations that concentrate their efforts on the recreations participated in apart from school life?			4	
13. How long the College Physical Education Association has published proceedings?			5	
14. What is the educational organization whose copyrights and publications the National Education Association has recently taken over?			10	
15. The organizations concerned chiefly with athletics?			1	

XIII. PUBLISHERS

Do You Know:	Yes	No	Points	35
1. Who has published the greatest number of books in the field of physical education?			10	
2. Where to find a selective list of publishers, with reference to what they have published in physical education?			5	
3. The source that contains a complete list of American publishers, with addresses?			3	
4. Where to find data on any books published in the United States: date, publisher's price, a list of all books published by the author?			15	
5. What is the ranking order of physical education books in college libraries throughout the country in comparison with those of other subject fields?			2	

XIV. RESEARCH AND STATISTICS

Do You Know:	Yes	No	Points	120
1. Where you regularly find a list of educational research under way?			6	
2. What source you would consult to learn if a certain author completed the research and had it published?			2	
3. The periodical that summarizes the research that has been completed in physical education every three years?			15	
4. What are the various organized sections in the American Physical Education Association which conduct research?			10	
5. How to locate surveys in health and physical education and how to discover techniques that have been employed?			5	
6. At the time when the Office of Education changed its policy in publication in 1930, what series were discontinued and what three new ones were started?			9	
7. How to judge from the name of the government publication the probable length of the articles?			3	
8. Which monographs in the National Survey of Secondary Education refer to health and physical education?			3	
9. What type of research appears in the Biennial Survey, and under what section heading you would find it?			5	



Do You Know	Yes	No.	Points	120
10. What government publications record research studies completed in health and physical education and recreation?			10	
11. What other major departments of the government offer service which is helpful in the field of health; and what are their publications?			5	
12. How to discriminate between the types of research carried on by each of the White House Conferences that have been held?			3	
13. Which chronological sources it would be necessary to consult in order to cover completely the research studies that have been published?			3	
14. In physical education, which magazines concentrate on making the most recent research in the field available?			15	
15. Whether a separate list of completed theses and dissertations and a list of subjects already selected for study in physical education has been published?			2	
16. Two sources where athletic records are published annually?			2	
17. Which statistics have been available regularly since 1911 in recreation and when they appear?			15	
18. Two sources where vital statistics are reported?			2	
19. Whether there is any monthly statistical bulletin dealing exclusively with morbidity and mortality figures and additional data interpreting their significance?			4	
20. The completest reference to consult for details of all United States government publications in regard to character, content, and titles?			1	

## XV. SPECIAL SERVICES

Do You Know:	Yes	No	Points	50
1. The details of the subscription service in the field of physical education, its cost, and nature of its materials, and uses which may be made of it?			15	
2. Any free services carried on by the same organizations?			3	
3. Three other available subscription services and something of the nature of these?			9	

Do You Know	Yes	No	Points	50
4. What two subscription annuals devoted to equipment and design guarantee as part of their service extra help on individual problems?			4	
5. The name of the weekly national bibliographic service for health literature?			4	
6. A monthly health bulletin that is furnished free to administrators and teachers upon request?			5	
7. What free publication devotes its pages almost exclusively to reviewing health books?			5	
8. What special services are available through the Bureau of Curriculum Research, 521 Russell Hall, Teachers College, Columbia University, New York City?			5	



## BOOK REVIEWS

PROFESSIONAL PREPARATION. J. B. Nash.  
(New York: A. S. Barnes and Company, 1935) 423 pages, \$2.00.

This is the fifth and last volume in "The Interpretation of Physical Education" series. Edited by Dr. Nash of New York University, School of Education, these volumes, uniformly printed, bound, and priced, constitute a worth-while contribution to the subject, and should find a place in the library of every teacher and institution interested in health and physical education. Previous volumes dealt with the following phases: Vol. I. Mind-Body Relationship; Vol. II. Nature and Scope of Examinations; Vol. III. Character Education Through Physical Education; and Vol. IV. Physiological Health. The publishers quote a price of \$9.00 on orders for the entire series. In common with the preceding volumes, many authors selected by the editor have contributed articles or chapters.

In the Introduction (Part I), Dr. Nash offers a definition or explanation of physical education, followed by its place in present-day society, discussing its characteristics and trends in relationship to the changing social order.

Part II (*Professional Training Trends*) presents a historical sketch of physical education in the United States during the last fifty years, tracing the trends in professional schools and liberal arts colleges, with special reference to the coordination of these in New Jersey. The editor also analyzes professional preparation problems.

Part III (*Professional Training in Physical Education*) considers the functions of the teacher, specifically the woman high school teacher in physical education, and the relationship to the nurse and the doctor. An illuminating summary is given of opinions of forty junior high school men as to the res-

pects in which their professional training was inadequate.

Part IV (*Relating to Selective Admission and Guidance of Trainees in the Profession*) discusses important requirements and procedures in admission and various phases of guidance during professional preparation. This section concludes with the demand for professionally-trained teachers, and indicates the need for some method of control or modification, since the present supply greatly exceeds the demand.

Part V (*The Curricula*), given nearly one hundred pages, stresses an understanding of "the world in which we live," including (a) general science, the living organism (biology and chemistry), its structure and mechanism (anatomy, kinesiology, and physics), and functions of the human organism (physiology and physiology of activity); (b) social aspects, history, government, economics, sociology, and psychology.

Then follows the relation of physical education to the arts, skills needed in the methodology to be employed, including laboratory experience, problems of administration and supervision, and finally working over into the principle and philosophy of physical education.

Part VI (*Curricula Adaptation to Group Needs*) presents a wide variety of existing situations such as the multiple-subject teacher in preparation and practice, the preparation of the grade teacher and the grade teacher who specializes. Specific attention is given to certain specialized functions within the profession, for example, the health teacher, the health coordinator, playground supervisor, camp director, club and recreation leader, public health nurses, specializing in individual

needs (corrective aspects), and the administrator or supervisor. Graduate work is discussed at length under the general captions: (a) Functions of graduate study. The varying concepts are grouped into four divisions and the implication of each explained in detail. (b) Types of graduate studies for areas of specialization. The treatment here consists of critical evaluation of opinions in the following specialties: administration and supervision, recreation expert, health expert, and adaptive physical education (physiotherapy).

The next topic—a survey of the requirements for the Master's Degree in physical education—is treated most exhaustively. Basing conclusions on the study of catalogs, replies to questionnaires, and follow-up correspondence with deans, the writer finds that graduate degrees with majors in physical education are offered by twenty-six colleges and universities, of which ten are members of the Association of American Universities. Consideration is given to (1) names of graduate degrees, (2) admission requirements, (3) curricula content, (4) administrative practices, (5) staff personnel, and (6) stated purposes of graduate degrees. A series of tables present summaries of the above which are most convenient for ready reference.

Part VII (*Problems of Administration*) includes an evaluation of (1) social trends, (2) functions and relationships, (3) selective admissions, (4) professional guidance, (5) curriculum problems, (6) laboratory method procedures, and (7) in-service training, in-service procedures, and several other related aspects.

State certification requirements are outlined and a series of recommendations calculated to reduce the present wide variation is offered. An extended folded table of detailed requirements in the various states gives a comprehensive summary of the complicated situation. A brief chapter on professional promotion outlines the following factors: (1) education for leadership, (2) cooperation with city, state and national government agencies, (3) establishment of standards, (4) re-

search, and (5) interpretation to the public. The treatment of this topic might have been extended with profit.

Part VIII (*Bibliography*) contains more than two hundred recent and selected references, classified on the basis of the seven parts into which the volume is divided. These draw from technical magazines and textbooks, government and educational publications, etc., and will be a most valuable selection of source material.

The reading of this treatise gives one a sense of deep satisfaction that so much valuable information and so many suggestions have been brought together in such convenient form, but there is a sense of disappointment in the meager treatment of one of the outstanding problems of professional preparation, viz., the evaluation of teacher-training institutions, of which there are said to be two hundred giving a four-year major with a degree (p. 169). The work of the national committee now functioning for four years is the first organized step in this direction and would seem to merit somewhat extended mention.

G. B. AFFLECK,  
Springfield College,  
Springfield, Mass.

THE DANCE IN ART. Lucy Lampkin.  
(New York: J. Fischer and Brother,  
1936) 211 pages.

A beautiful art book of 211 pages, handsomely bound, artistically printed, and gorgeously illustrated with 140 plates of paintings, sculpture, and etchings of the dance from all periods is here presented. It also contains an inspiring anthology of dance poems, twelve charming dances for children, with musical score, an educational chart of correlation, and seventeen unusually fine photographs of dancing children.

All in all, *The Dance In Art* is the book that the profession stands most in need of at this moment. There has been a tendency to think of dancing chiefly in its modern manifestations. This book by Miss Lampkin presents the dance as an art of all times. There

has also been a movement to isolate the dance, to make it a phenomenon apart from other arts. *The Dance In Art* replaces the dance in its natural environment of painting, sculpture, poetry, and music. Besides giving the students of the dance a volume of priceless dance material, this work offers them a perspective, a culture, and a background that will save them from many of the pitfalls of ignorance, prejudice, and fanaticism which endanger the artistic growth of dance students today.

The book is to be recommended especially for the scope of its material, the taste of its selections, and the open mindedness with which it represents all schools, viewpoints, and artists of the dance.

*The Dance In Art* is a volume that every school, library, teacher, and student of the dance should possess. Its physical beauty as well as its wisdom recommend it as a suitable prize, gift, or display book.

LUCILE MARSH,  
Director, National Dance  
League

THE PHYSIOLOGY OF PHYSICAL EDUCATION. Percy M. Dawson. (Baltimore: The Williams and Wilkins Co., 1935), 938 pages; \$8.00.

Dr. Dawson has created a unique book, remarkable in many ways. In its attempt to bring together all of the principles and facts of physiology which have a bearing on physical education it is different from the several books on the physiology of exercise which have recently appeared. It is rather patterned after the *Handbuch* so common in Germany, in which all that a certain tradesman or professional needs to know is brought between two covers, or in a series.

In bringing together such a vast amount of pertinent material, the author has performed a tremendous service to the profession. It represents a truly prodigious task, which could be performed only by one who has had long and intimate contact with both

the science of physiology and the profession of physical education.

Not unlike other handbooks, it reflects in its selection of materials for inclusion, as well as in the materials excluded, the insights, interests, and prejudices of its author.

The author addresses the book to four groups of persons, as follows: First, students above average in intellectual energy and curiosity; second, young physical educators who must teach elementary hygiene and physiology, and therefore need a large amount of information in readily accessible form; third, those interested in research; and fourth, "those 'progressive' teachers who have become discontented with much that is called education and especially with a certain variety of textbook, of which this one is *not* an example, however manifold its shortcomings in other ways."

A main effort of the author is to integrate with the rest of human knowledge the various disciplines such as physiology, psychology, and kinesiology, which serve physical education and the profession itself. He says that "physical education is not merely an exclusive area, but a point of departure from which to explore the surrounding territory. If, therefore, I seem at times to wander excessively and perhaps to touch upon every subject under heaven, it is not because my vanity is making a tour de force, but because of a really vehement desire of discouraging intellectual provincialism and of fostering what Sarton has called the 'New Humanism,' and which, to distinguish it from religious and other new humanisms, we may call 'Scientific Humanism.'"

In its avoidance of dullness the book admirably accomplishes the author's hope expressed as follows ". . . and so I hope that these pages will be less dull than usual and that sometimes the reader may be stimulated even to laughter. To laugh with me would be jolly, but even to laugh at me would be better than not to laugh at all."

The contents are divided into forty-two chapters, grouped into fourteen parts. Of unusual interest and value



are such practical chapters as those dealing with training, second wind, tests, wounds, and casualties of sport and work. The physiological facts presented are, on the whole, up-to-date and reflect wide reading. The sequence of chapters appears to be without rime or reason; thus Chapter III deals with the nervous system from cord to corpus striatum, sleep appears in Chapter XXXI, while the brain is taken up in Chapter XXXVIII, after practical chapters dealing with training and second wind, and just before the chapters dealing with reproduction and various injuries. This unorthodox order, coupled with a too brief index, makes ready reference difficult.

An outstanding peculiarity of the book is the use of simplified spelling and a multitude of abbreviations. Though for the most part these form a handicap to easy reading only until one becomes accustomed to them, the reviewer must confess that some of the abbreviations have caused him much trouble, several escaping him entirely.

The book is dedicated to Jane Doe, who apparently symbolizes his former students. One is made repeatedly aware of this by the introduction in almost every chapter of a paragraph directed in the second person to Jane. In such paragraphs the author adopts a most intimate note and imparts to Jane much of his personal philosophy. Some of these "interludes" form the choicest readings. The documentation of the text is very inadequate, there being frequent reference to unusual experiments or the findings of others without mention of the worker or reference, thus making verification almost impossible. An appended bibliography of 387 references is made ineffective by the fact that for 246 of these, reference is given only to a bibliography appearing in another book, thus making it necessary to refer to a second text to find the actual journal reference.

There are an unusual number of typographical errors and misspelled words. This is unexpected in a book published by Williams and Wilkins.

In spite of its several shortcomings,

this book has much of freshness, and symbolizes a new spirit of daring and adventure in the field of text writing. Many will want to read it for this reason alone. Every physical educator will profit from its study.

ARTHUR H STEINHAUS  
*George Williams College*

MODERN DANCE. Compiled by Virginia Stewart. (Los Angeles: Lynton R. Kistler, 1935) Illustrated, \$6.00.

*Modern Dance*, compiled by Virginia Stewart, is a valued addition to a modern dance library.

There is an introduction by Virginia Stewart followed by four main sections. Part I is "The Modern Dance in Germany," Part II "The Modern Dance in America," and Part III "Biographical Sketches." The fourth section, interspersed between Parts I and II, is made up of a goodly number of photographs of the dance artist contributors. Part I has articles by Artur Michel, Mary Wigman, Palucca, Kreutzberg, and Hans Hasting; and Part II, the American section, consists of articles by Paul Love, Martha Graham, Doris Humphrey, Charles Weidman, Hanya Holm, Virginia Stewart, and Merle Armitage.

Martha Graham writes excellently and to the point on the philosophy of the American dance as identified with America. Doris Humphrey confines her chapter to her own principles, theories, and procedures which have grown as a result of her experience as an artist and a teacher. Charles Weidman does his chapter from somewhat the same angle, though less inclusively. As far as Americans are concerned, Hanya Holm really sums up the chapters by the other German contributors. She states basic facts and reasons underlying the German and American approach which are very clarifying as to the differences of the two. The chapter by Paul Love would have been more satisfying had he written more fully concerning the contemporary American dancers rather than in spending most of his energies on the historical development of dance in America.

Artur Michel, an outstanding German dance critic, leads up to the modern movement by a general survey of the influences of individuals who have gone before the modern era. The remainder of his discourse is given over to an elaboration of Wigman's development through citation of many of her compositions, both solo and group, and the themes upon which she has worked.

The close relationships and comparisons of dance and music are given conclusively by Hanns Hasting. His conclusions concerning these comparisons are valuable and the following statements are accepted as fundamental. "The fact that there is a great, great difference between the psychology of form in dance and in music may help to make clear why it is wrong to combine the modern dance with classical music. The reason is there is an insurmountable discrepancy of form. Each new dance creates its own form. The motive or theme of dance music today springs from actual bodily movement." At least one more chapter by a dance-musician-composer on conclusions, ideas, and ways of working would add greatly to the book.

A survey of *Modern Dance* would add to general knowledge of both student and teacher, and would stimulate discussion.

RUTH ALEXANDER  
Ohio University

PRINCIPLES OF HYGIENE. Thomas A. Storey, Ph.D., M.D. (Stanford University: Stanford University Press, 1935) \$3.50.

The importance of health in human welfare is most basic in whatever form of social organization our society may exist. Human health can depend upon nothing more basic than an informed society. The wealth of new books dealing with many phases of hygiene must be a response to a need. Many of these books are but brief, dogmatic expansions of the older rules of health. For popular use such books have their place, but courses in college hygiene based upon empirical edicts ex cathedra have had difficulty in gaining respectability in the academic circle.

In this new edition Dr. Storey has given us a revision of his material which deals profoundly with the problems of hygiene instruction. Not only the material but the presentation has plenty of depth for college and medical students, as well as for many teachers of hygiene. Many books in hygiene compile information without evidence of thought as to its meaning and relationships. The logic so evident in the arrangement of the material in this volume is familiar to those who know the author's other writings. This analysis, and perhaps categorical arrangement, is so strange to many other such books, that it may impress some persons as being confusing and unduly rigid in classifications.

The reviewer is impressed with the desirability of an orderly and logical handling of material secured from so many sources, and the diverse approaches to the problem of hygiene. He does not know the student's reaction to this text, but he would not be surprised to find some students failing to keep in mind the idea of constructive versus the defensive in a good many parts of it.

For many persons, the author's indication that a principle is a cause, fact, or truth is probably needed to justify the amount of material included. To characterize as diseases the asocial behaviors which one understands to be based largely upon the nature or biology of man indicates an expanded and probably much-needed new use of the term "social hygiene."

One finds in this book a wealth of scientific biologic data on the several factors recognized as basic to health promotion and health conservation. It is the material upon which a student would build a sound structure of knowledge of hygiene. There are many illustrations, particularly in the several chapters dealing with human heredity and with cytological and biologic organs. The critical student may wish more in the field of mental hygiene and adjustments to the biologically unwholesome conditions of civilized life as basic in hygiene.

Well printed on good paper, with a

good index and addenda, this good-sized book should be seriously considered as a text for courses in hygiene which attempt more than elementary consideration. It will be consulted many times if handy to one who wants outlines of discussion or specific facts relative to many questions of human heredity and physiology, or situations hazardous to good health.

WARREN E. FORSYTHE, M.D., D.P.H.,  
Professor of Hygiene,  
University of Michigan

**TWELVE HOURS OF HYGIENE.** Florence L. Meredith. (Philadelphia: P. Blakiston's Son and Co.) 364 pp; illustrations.

This book is an abridged edition of Meredith's 900-page *Hygiene: A Text Book for College Students*. The condensation is effected partly by cutting the strictly anatomical and physiological section to a 26-page résumé. The remainder of the material—the applied physiology—has been reorganized under chapter headings which make for unity of the subject matter in its new compressed form. For example, in the chapter entitled "The Use of Energy in Activities," muscular work, mental effort, the use of the eyes, and the choice of recreation for leisure time are discussed in logical sequence.

The compression of the information of the older book into this small edition is not the only feat which the author has accomplished. There has been a marked gain in drive and focusing. To read *Twelve Hours of Hygiene*, alertness and concentration are needed. It is definitely a workbook, presented as it is in outline form with abundant italics, and subdivisions within a paragraph marked by alphabetical symbols. These devices are included to catch the attention of the reader and emphasize the point, but do so at some sacrifice of pleasure in reading. Frequent examples appear in parentheses. These should make the material more vivid to the student, though to some readers they may at first seem annoying interruptions. The language is as popular as is compatible with scientific accuracy,

but never becomes loose or ambiguous.

Nearly half of the illustrations of the older edition have been retained, including practically all of those on posture and feet. This subject is treated in much the same detail as in the unabridged volume, but it appears under the heading "Body Mechanics," indicating the author's approach to the problem of maintenance of equilibrium. She adheres to the idea that "many complaints too numerous to enumerate" may have their origin in the supposedly trivial bad habit of stooping.

The book should be appreciated by physical educators for Meredith constantly relates exercise to health. This is more evident in the condensed volume than in the unabridged. The emphasis upon the terms "correct in amount and kind" to qualify exercise for all individuals is good. Also good is the importance placed on "training down" to allow for proper physiological adjustments to be made while changing from much exercise to little. Advocates of physical education requirements should take delight in this sentence: "Although it is customary to examine those who plan to be active, it should be equally customary to examine those who plan to be sedentary, to see how much sitting still they should be permitted."

A relatively full and leisurely treatment is accorded to Chapter XII, "Reproduction and Sex." This chapter includes many of the questions which young people ask if they are given a chance. Since surveys of students' choices of topics in a hygiene course show that sex is usually given the first place, it is justifiable to give this division of the course generous space.

In a few instances statements made are not in accord with modern experimental work. For example, in the discussion of weight control, the optimal loss is definitely placed by Meredith at a maximum of two pounds per week. However, a more rapid reduction than was previously thought desirable has been recently shown to be perfectly safe provided the diet is adequate in protein, minerals and vitamins. Some physicians now employ diets which in

general bring about the loss of three to four pounds a week.

*Twelve Hours of Hygiene* is intended for use as a text in a one-hour one-credit course. At the end are several blank pages which the instructor may use in giving fuller treatment of selected topics. They could well be used also for notes on reference material since there is no bibliography. This lack is partly offset by appendix material on nutrition and diet, height-weight tables, and tables of communicable diseases. Consistent with the content of the book is a note to the effect that the cover of the book is sturdy, vermin proof, and washable with soap and water.

J. ANNA NORRIS, M.D., and  
ELIZABETH BROGDON  
*Department of Physical Edu-  
cation for Women, University  
of Minnesota*

TRACK AND FIELD ATHLETICS. D. G. A. Lowe. (New York: The Pitman Publishing Corporation, 1935) 143 pages, \$1.00.

Those students of track and field who have sought an explanation for the remarkable success of English middle distance runners in international competition may find it in this book by Mr. Lowe. Twice winner of the Olympic 800-meter championship, and a keen student of track, Mr. Lowe is well-qualified to present to us the English philosophy of training for athletics and to describe the styles and techniques practiced by English athletes.

It is described by the author as a "book primarily for the young athlete, still or recently in school, and it does not profess to be a complete manual such as the expert might desire to consult." It is not, however, written from the novice's point of view, and, as Mr. Lowe suggests, it contains enunciations of general principles which should be of value to more experienced athletes and coaches. It describes only the highest standard of perfection of form.

Particularly good is the author's chapter on training. He says, "The

question is, what is the training necessary for success and real enjoyment of athletics?" Throughout the book this philosophy of gaining enjoyment is stressed, and definite ways are offered of increasing the satisfaction to be derived from engaging in these sports. To the English, "being in training" to young athletes involves little more than being healthy and leading a normal existence all the year round. With general good condition assured, special training consists of cultivating speed, form, coordination, and the other factors necessary to success in the different branches of track and field sports. "The one inflexible rule which cannot be overstressed . . . is moderation." This is especially true for young athletes. Mr. Lowe points out that many brilliant schoolboys fail to reproduce their form when fully matured, while others like Lord Burghley and Thomas Hampson have had phenomenal success after leaving school, though their school performances were quite mediocre.

Schoolboys should take other precautions by attempting only those events suitable to their physiques, modifying the more difficult ones. Form and technique should be practiced, "all out" running forbidden in practice, and records ignored. This is certainly at variance with the practices of many American school coaches, although it is constantly being demonstrated that one will eventually get farther in the end by cultivating a good running style, developing a keen knowledge of pace, and studying racing technique and tactics than by a great deal of aimless running.

While the author's discussion of training and his description of the best of running form and racing tactics will be of most value to his readers, the other events of the track program are thoroughly covered. In describing these, the author has been aided by the writings of other English experts, viz., H. M. Abrahams and R. M. N. Tisdale. The publishers have included many instructive illustrations emphasizing fine points of form made by the author. This is a fine book for a

boy who must compete in track without the advice of a competent coach, and it should certainly find a place on the shelf of every true student of track and field.

NORMAN C. PERKINS,  
*Coach of Track,  
Colby College,  
Waterville, Maine*

PHYSICAL EDUCATION TEACHING MANUAL. Mabel E. Rugen and Jeannette B. Saurborn. (Ann Arbor, Michigan: Edwards Brothers, Inc., 1936) 140 pages. \$2.50.

It is generally agreed by persons engaged in the professional preparation of teachers that the work in directed teaching offers unusually valuable and significant opportunities for preparing prospective teachers for the responsibilities they will have to meet when they secure a position. There have been published during the past few years several manuals and workbooks for the use of students engaged in directed teaching of academic subjects, but there has not been available any organized materials for the guidance of student teachers of physical education. This manual, therefore, is a distinct and valuable contribution to the professional literature in the field of physical education. It should be of great help in connection with courses in directed teaching, but should also be of interest and benefit to physical education teachers who are engaged in full-time positions in schools.

The book is organized in thirteen units and an appendix. The units include material designed to guide a student teacher in (1) orientation activities, such as personal appearance, behavior, and getting acquainted with the school and the pupils; (2) class management which includes routine

class procedures, organization of pupils for activities, clerical duties, and arrangement of equipment and supplies; (3) planning the school program of physical education, and preparation of specific lesson plans; (4) the use of teaching devices and procedures, such as demonstrations, discussions, drills, study guides, and worksheets; (5) the use of written and practical tests; and (6) the use of a bibliography in teaching physical education.

The appendix contains some excellent material on standards of achievement, accompanied by written tests, in sports for junior and senior high school girls. Standards and tests are proposed in fieldball, captain ball, captain basketball and baseball for the seventh grade; soccer and nine-court basketball for the eighth grade; hockey for the ninth, tenth, eleventh, and twelfth grades; basketball for the ninth and eleventh grades; and baseball for the twelfth grade.

The fact that the material contained in this book has been carefully and critically tried out in real school situations for a period of five years makes it particularly sound and valuable to teachers. The material included in the appendix was tested and analyzed in terms of pupil interest and achievement over a period of years.

This book has been neatly and carefully prepared, and shows the results of critical editing. It is lithoprinted on pages 8½ x 11 inches with two columns on each page. At the end of each unit there are two or more unnumbered blank pages to be used for notes by the student teacher.

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